

VOL. I.

# ABSOLUTE RELATIVISM

*M<sup>c</sup> TAGGART*





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# ABSOLUTE RELATIVISM;

OR,

THE ABSOLUTE IN RELATION.

BY

WILLIAM BELL McTAGGART,

*Late Captain 14th Hussars.*



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PART I.  
PREFACE AND PROLOGOMENA.





# PART I.

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\* \* \* *The continuation of Part I. is in preparation,  
and will appear in Vol. II.*

## ERRATA.

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Pages iii., 23, 87, *for* "Part" *read* "Chapter."

Page 41, line 14, *for* "Cobanis" *read* "Cabanis."

Page 61, line 7, *for* "tho" *read* "the."

Page 76, line 2, *for* "on" *read* "in."

Page 78, line 6, *for* "interpolation" *read* "interpretation."

Page 83, line 13, *for* "orfo" *read* "or of."

Page 95, line 4, *delete* "lower or."

Page 117, line 32, *insert* "as" after "beyond."

*For Prologomena read Prolegomena*



## PREFACE.

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THE *ens rationis* of Philosophy is to make manifest, or set forth, "that which is true," and to furnish mankind with ultimate and satisfactory answers to the questions, Whence and whither? How and what?—questions co-eval with the dawn of mind, and which, *pari passu* with the growth of knowledge, press more and more urgently for solution. The *ens rationis* of Religion, however, may adequately be expressed in identical terms, and so far, therefore, these two are one; and it should never be forgotten that they are thus, in their root, children of one parent—Inquiry. It is not long, however, before they diverge widely into independent, though fairly parallel, streams; and the rock on which they split is method. Theology enunciates its dicta as unreasoned and unreasonable truth derived from supernatural source, which dicta must be accepted, unanalysed by, or confronted with, the tests of natural reason. Philosophy, on the other hand, professes to be reasoned truth—that is, "organised and unified knowledge," evolved by processes of the intellect alone. A strong undercurrent of sympathy, however, has always existed between the two methods, from the fact that there is yet no certain answer given to the question: Is there any, and, if so, what, portion of the data of the intellect derived from a supernatural or supermaterial source?—the element of uncertainty or mystery being the bond of union.

The questions remain as ever; but the answers, in the form of numberless religions and countless philosophies, have varied almost as often as have the questioners. Given a complete, a satisfactory answer, and the ultimatum is obtained—a united system of Religion and Philosophy, which shall be a rule and guide for life, both for the individual and for the collection of individuals. An oracle then would have arisen whereto all questions might be referred; a standard of unity wherewith all things and thoughts might be compared; an unvarying test whereby right from wrong might certainly be demonstrated; and an infallible guide would be established, pointing the direction towards which our Hopes, our Energies, our Loves, our Lives, should tend.

So far, the answers are almost infinite in their variations. Mankind has progressed a distance we may scarcely measure, and, as succeeding

vistas have opened on the road, the old answers cease to satisfy. Once more, at each fresh turn, must all the past achievements be summed up; once more must introspection re-survey the ground; once more press home the questions, Whence and whither? What and how? Small wonder is it that, in the review of all the countless systems, countless faiths, the cry of despair springs ready to the lips: "There is no Truth, no Certainty, no Changeless One, no Hope—nothing but an All-eternal grind of Matter, Force, and Law!" Time after time has this despair prevailed and wrought its havoc and devastation upon the life and hope of nations. Never, in the history of the world's great past, has this despair taken so firm a hold—never was it so keenly felt, so widely spread, as now it is.

Theologies are fading fast; one form of Religion after another slips its hold upon the lives of men. Philosophy is chaos; system after system, analysed, criticised by the fierce light of acquired knowledge and organised and trained intellect, is abandoned as untrue. Even the torch of science, to which so many minds had eagerly and hopefully turned, burns sadly dim, uncertain, and flickering, crossed and bedarkened with the shades of conflicting theories and unverified hypotheses. What then? Is this and all the other lights to die? and is the world to fall into the outer void, beyond the reign of light, beyond the dawn of hope? Phosphorescent, faint, misleading, each and all may have been found alone. Is it, however, therefore, beyond the bounds of possibility, beyond the scope of endeavour, that all these fitful lamps may be combined and focussed, so that, from the ample combination, a strong and steady light may be produced?

The object of this work is, firstly, to examine each and all the leading systems of Philosophy. Have they one and all failed, and is their endeavour fruitless? They have failed, one and all, to represent the whole of truth; but they are, each and all, stepping-stones laid for the passage of those who follow after.

It admits of little question that each and all Religions, each and all Philosophies, are but facets reflecting some portion of the truth. The plan and scope, therefore, of this work is, firstly, by exhaustive analysis of all the leading trains of thought, to arrive at the portion of the truth that each contains. Pointing out the truth, and why it is the truth—separating thence the error—it is believed that all essential truth may be obtained; and, when this necessarily first portion of the task is done, and the materials are ready to the hand, then synthesis must supplement analysis, and Part II. will be wholly occupied with the setting forth of "Absolute Relativism," the selected name for a system which, it is hoped, may offer a new departure for philosophic thought. These two, analysis and synthesis, comprise the task—analysis and synthesis of

first principles, the first and greater part ; but more must follow, if the work is to be useful or complete. First principles must be the foundation ; but on this foundation a superstructure must be reared. The method, however—analysis and synthesis—must still prevail. Part III., therefore, will be an analytical examination of the sociological outcome of the various creeds in the past, and an endeavour will be made to point out the logical nexus between faith and practice, and to display how error in the principles is supplemented by error in the practice, and how truth in underlying axioms, if properly reasoned upon and worked out, is capable of bringing forth principles that may be relied upon for the guidance and welfare of mankind. Part III. having treated, then, of the connection between ontological theses and first principles, with the practical modes of life directly derivative therefrom, Part IV. will synthetically build up the practical application to everyday life of the “Absolute Relativism” propounded in Part II., pointing out the leading principles to which both individuals and governments should conform.

Such is the outline and framework of the attempt. To those readers who are prepared to follow the development of the work the author makes but one appeal. Let us together approach the task with minds divested of preference, prejudice, or bias. Atheism, Materialism, are words of dreadful import to many. Others, again, differently constituted, and habituated by different surroundings and varied modes of thought, regard with no little scorn the anthropomorphic conceptions of Theologies, or even the vaguer generalisations of Theism.

Religions more especially, but Philosophies also, have, times out of number, been defaced and withered up by the passions and prejudices that have surged around and over them. Truth has been misrepresented—nay, purposely hidden—because, forsooth, it did not square exactly with preconceived prejudices or some material interest. It has even loudly and frequently been proclaimed that, because the tendency of an argument was to establish principles that were out of harmony with some vain and ignorant imagination, therefore not merely was the logic incorrect and the first principles unsound, but that the very consideration of such principles or probabilities must be suppressed by all the rigours of fire and sword and calumny of tongue and pen.

The true reason that Philosophy has been so barren of result is that, practically, all the varied systems have been but distorted representations—truth twisted, wrenched, and ruptured, either knowingly or unknowingly, so as to make it harmonise with individual preconceptions ; conditions formulated sometimes by the powers that are ordained—sometimes, and even more powerfully, by the supposed necessities of the intellect. We, however, in this closing quarter of the nineteenth

century, start less trammelled by the impedimenta of the past than any of our predecessors. One burden after another has fallen from our shoulders; one band after another has been loosed. But look to it! As you value the freedom of yourselves and your children, make not fresh fetters! Our fathers were bound with cords; but signs are not wanting of the forging for our necks of iron bands. Our fathers bowed down before the supremacy of the One; take heed that we fall not under the domination of the Many.

The fetiches of the hour are personality and intelligence of the "All-upholder" on the one hand, as against "non-personality and mechanical necessities of the ultimate substratum." Gross Anthropomorphism! cry the one section, and, with curling lip, disdainfully they pass by on the other side. Atheism and Automatism! cry the other, and, frightened by these bogies, they will not even pass by at all. Both camps seem regardless that the other holds at least one aspect of the truth, and that a higher knowledge and a wider generalisation may unify the two into All-personality and All-theism.

The judgment-seat must know no bias; and in order, therefore, above all things, to maintain an impartial mind, the author has deemed it necessary to represent at length the various creeds, not from afar off or as one apart, but as entering into and being one with each, when under consideration; and he has endeavoured, even at the risk of prolixity, to verify the essentials of the various theses by ample quotations from the mouths of their accepted representatives.



## PROLOGOMENA.

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BEFORE we enter into a full consideration of the various systems of philosophy it will be necessary, in order to clear the ground, for us to discuss somewhat minutely the first great question, or rather series of questions, that underlie all philosophy—namely, What is the origin, what is the description, and what are the limits of our knowledge? About these the battle has raged with varying success for more than two thousand years. Various indeed are the combatants who have fought, varied the formation of their battle lines; combined as allies to-day, parted as foes to-morrow, the victory has remained with none.

Let us, also, ask, What are Cognitions, and how are they possible for us?

The first answer is the purely Materialistic one given, in the dawn of Philosophy, by Parmenides, Empedocles, and Protagoras. Thought—that is, cognition, or knowledge—is Sensation. Observe, not merely that Sensation is a necessary factor of thought, but that thought is identical with Sensation. This explanation, however, was too evidently one-sided to remain long uncontested. It was seen that some other factor besides feeling (Sensation) must be postulated. Sensations are successive and isolated; some power must be present that is capable of unifying and organising these Sensations. Unorganised, unconnected Sensations are clearly incapable of emerging as knowledge. It is true that the earliest Materialists had recognised this necessity; but they met the difficulty by assuming that thought was the outcome of material organisation, and that, as the formal particles took on or acquired organisation, so the mental element became possible; in other words, that thought was merely the outcome, a by-product as it were, of Matter—in fact, a purely material manifestation. This position is one from which the accepted Materialism of to-day has made little advance, and the terms of the thesis are in all respects similar. Parmenides (B.C. 536) wrote:—

“Such as to each man is the nature of his many-jointed limbs,

Such also is the intelligence of each man; for it is

The nature of limbs (organisation) which thinketh in men.

Both in one and all the highest degree of organisation gives the highest degree of thought.”\*

\* “History of Philosophy,” by G. H. Lewes, vol. i.

And the re-echo of this refrain falls unaltered on our ears from many of the schools of modern civilisation.

This explanation, however, is no explanation; it is, at best, but a statement, and a statement—that is, a *petitio principii*—it must so remain until adequate demonstration is forthcoming. Pending this demonstration the question still pressed, What is the power enabling the process of unification and co-ordination of our sensations to take place? Pythagoras stepped into the gap and supplied the answer, which has more or less explicitly been accepted as the groundwork for all subsequent systems of philosophy, both Materialistic and Idealistic. He referred all objective things to the standard or principle of an existing self, or unity, by which all things were measured—a subjective unit rendering synthesis a possibility.

Such was the Pythagorean doctrine of number, which has for the most part been misunderstood; and it will greatly help us in our endeavour to read the riddle aright if we turn aside for a moment to especially examine the true scope and bearing of this doctrine.

Professor Ferrier writes\*: “Let Self be apprehended, and every-thing becomes (potentially) apprehensible or intelligible; let Self be unapprehended, and everything remains necessarily inapprehensible or unintelligible.....The nearest approach to this proposition in ancient times was probably the Pythagorean speculation respecting number as the ground of all conceivability. In Nature *per se* there is neither unity nor plurality—nothing is one thing, and nothing is many things; because there cannot be one thing unless by a mental synthesis of many things or parts, and there cannot be many things or parts unless each of them is one thing; in other words, in nature *per se* there is nothing but absolute inconceivability. If she can place before us ‘thing,’ she cannot place before us *a* or *one* thing. So said Pythagoras. According to him, it is intelligence alone which contributes *a* to ‘thing’—gives unity, not certainly to plurality (for to suppose plurality is to suppose unity-already given), but to that which is neither one nor many; and thus converts the unintelligible into the intelligible.”

The necessity, therefore, of postulating a subjective basis or Self, as a preliminary to the discovery of an objective basis or Not-self, was clearly demonstrated, and the battle-ground was thereafter shifted, as we shall find, into how much of knowledge is attributable to the subjective, or element of Self, and how much to the element of the objective, or Not-self; and, finally, in the hands of the Idealists, into the query, Is not the whole of knowledge due to the subjective, and is there any objective at all? The beginning of philosophy, we have seen, was the

\* “Institutes of Metaphysics,” by Professor Ferrier.

denial of the subjective, and the circle is concluded by the denial of the objective.

The postulate of Pythagoras is universally admitted, as being the underlying verity or ultimate starting-point for discussion, behind which we cannot go, for self must be postulated even in the denial of Self. It is, in fact, identical with the proposition of Descartes, from whom modern philosophy may be said to have descended : "*Cogito, ergo sum*"—I think, therefore I am. It has been suggested that this formula should be amended into "*Cogito, ergo cognosco sum*"—I think, therefore I know that I am ; the reason for this addition being, briefly, that it accentuates the point that the postulate is confined to an individual statement, and that it is not to be supposed to include a postulation of all existences, for we may readily suppose that entities without thought exist, although they are necessarily unconscious of the fact, and therefore that, unless the "*cognosco*" be added, the original "*Cogito, ergo sum*" might be held to contain an implication that such existences are impossible. This, however, is merely splitting straws. The "*cogito*"—I think, necessarily implies knowledge, and the addition of "*cognosco*" is simply tautological. *I* think, therefore *I* am, is merely a postulate of individual existence—a last and definite certainty requiring no demonstration ; the one axiom which must be accepted as a necessary preliminary to the discussion of all questions whatsoever. The second question, whether other things exist, much less whether they can be classified into sentient and non-sentient entities, is one that arises far down on the road, and must be settled, not by mere postulation, but by ratiocination, and can by no means be included in an axiomatic starting-point which is to be accepted as an undemonstrable but nevertheless unquestionable verity.

We have now arrived at an understanding of the great first principle, which alone of all things Absolute or Relative, Finite or Infinite, we must take for granted ; and the necessity for its postulation has been made clear. The next question that arises is, Given the Ego, how does thought arise ? Unquestionably through—that is, by means of—Sensation. Sensation, it will be remembered, was the fundamental of the early Materialistic hypothesis ; but, proving barren alone, it had to be confronted, unified, with a sensitiser ;—Sensation, it is true, but Egotised, Codified, and Recollected. Sensation, thus organised, however, is Experience. The union, then, of the Protagorean and Pythagorean trains of thought, supplementary to each other, resulted in the thesis, "Experience is the source whence the whole of our knowledge is derived ;" and this is the amended answer formulated to-day as the groundwork of every Materialistic or Atomic creed. Simple and satisfactory as this formula may seem, arrived at merely by the double postulate of self and not-self, capable of much demonstration and

verification, we are only now at the beginning of sorrows. This is the parting of the ways. Put our newly-forged weapon to the test, and what is the result? This said experience teaches, firstly, that Sensations are varying and complex, a different result arriving among different individuals, and even to the same individual at different times, under precisely similar circumstances of external Stimuli. Stimulus *plus* response to Stimulus is the law of Organisation, Sensation, Thought, Experience. But let the Stimuli be equivalent to Stimuli, the response is never quite the same. It is a truism that the outcome of the Stimulus *plus* the response thereto, which is the resultant phenomenon to us, admirably called by Dr. Lewins the "think,"\* is dependent as much, if not more, upon the subjective response than upon the objective Stimulus itself. This Ego, however, this *I*, is also ever-shifting, ever-changing; and, as the only admittedly possible standard, the unifying one, is variable, a faithful estimate of the external world is impossible. Experience, therefore, is an unreliable guide, and knowledge, as obtained through the senses, a delusion and a snare, being at best a most uncertain approximation. Experience, the Materialistic basis, as a source of an actual knowledge, is shown of none effect, and whither shall we turn? An answer arises. "The only possible alternative is introspection." Turn the Ego in on itself, for this is the only real and unasailable factor, and hence the only source of knowledge. From this corollary has sprung the philosophy of pure Idealism as a complement or corrective of the errors of the objective train of thought. Complementary in a sense, yet opposite and parallel; but, being parallel, incapable of uniting with the other, and leading itself no whither; for the Ego, turned upon itself, can only investigate or think about itself in the terms and under the conditions of the phenomenal—of the experience. But experience, this compound of external and internal inaccuracies, we have seen is wholly unreliable, inaccurate, and who shall say how false?—consequently, the questioning of the Ego proves equally a mockery.

Where, then, lies the solution of the dilemma? The solution lies in the achievement of directing each or either of these hitherto parallel trains of thought so that, eventually, a coalescence may arise. Complementary they are to each other, it is true; but, pulling different ways, they are also mutually destructive. Perfect union is the ideal solution; but, failing that, cross roads must be found by which communication may, in some degree, be established.

Such combination or connection has been the great endeavour of philosophers, perhaps without exception, for fifteen hundred years.

\* "Life and Mind," by Dr. Lewins. (London: W. Stewart & Co.)



Each one, doubtless, has laid a special stress on the one side or the other, according to his mental bent. So this man has been proclaimed Idealist, and that Materialist ; but of pure Idealists or Materialists scarce one is found. So conspicuous has been this tendency that all the greater names of modern thought, Descartes, Kant, Leibnitz, Spinoza, with many others, have each, one and all, been furiously claimed by excited disputants as displaying a leading bias and support towards the claims of the more pronounced votaries of Idealism and Materialism alike. Kant, above all others, has been the most disputed over ; and why ? Because he, beyond all other minds, set himself to determine, analytically and critically, Can we not separate the elements of knowledge ? May we not discover what is the portion of experience supplied from the outside world through the Sensations—what is the portion furnished necessarily by the mind ? Are there not intuitions of the Ego forming an *à priori* knowledge which is prior to, and is the organiser of, the *à posteriori* materials acquired through the channels of sense ? Nay, more, is not this *à priori* knowledge of a far higher type, partaking of the characteristics of universality and necessity (certainty) ; different not merely in degree, but in kind also, and consequently derived from a far grander source than the fragmentary and unstable suggestions of the objective world ? It is admitted that there are two factors necessary to knowledge—Self and Not-self. Can we divide the two and say what are the characteristics by which we may distinguish them, and can we on either side find elements of certainty ? Such were his questions, and, in brief, we must set forth his answers thereto ; for this is the key-note and centre-point of modern philosophic thought.

The answer to these questions was the crown and glory of the Kantian system ; but, as a preliminary, before these questions could be either asked or answered, it was necessary to ascertain what, if any, were the limitations of our knowledge ; and having ascertained, as it were, its dimensions or capacities, some possibilities of success were promised to the subsequent attempt of analysis and division. He began, as all must, by the final postulate of consciousness as the groundwork of all conceivable knowledge. This consciousness, however, must necessarily remain barren of knowledge, unless outside material was supplied which it could become conscious of ; or, in other and more accurate language, which it could represent to itself as ideas. Is it possible, then, for the mind to know things as they are, or *per se* ? No ! The mind can be occupied only with its own ideas ; ideas arise as a resultant of the Stimulus *plus* the capacity of the mind for the response thereto. In other words, we can only think of things, not as they are *per se*, but under the conditions and in the terms of mind. This

thinking, then, of object in the terms of mind is the experience which is the source of knowledge. But experience is admitted to be uncertain and fleeting ; wherein, then, can lie the principle of certitude whereby experience may become a reliable guide, and knowledge may be built up by experience, added to and corrected by experience? Kant answered as follows : The Non-ego or Object is variable and unknowable *per se*. The Subject is variable and unknowable *per se* also, and ontology is consequently an impossibility. But the laws and forms of thought are universal, necessary, and unalterable, and here is the standard of certainty, by perpetual reference to which experience may be corrected and codified and knowledge may increase. The limits of our sensuous experience are equivalent to the empire of phenomena ; but the forms of thought—namely, the forms of our sensibility, the forms of our understanding, the forms of reason—these are the principles of certainty : a certainty not limited by the kingdom of sense, but extending equally beyond these bounds, universal and necessary—coercing even the Absolute. But nothing that is certain, nothing that is everlasting, can be deduced from that which is uncertain, that which is momentary. And, as both factors of our knowledge—the Non-ego and the Ego—partake of the characteristics of variability, therefore this confident acceptance of a principle of certainty, universality, and necessity cannot be arrived at by experience or *à posteriori*, but must arise *à priori* or by intuition. The element of certainty is given to the Subject by the Creator ; and to the laws of the Subject, therefore, must all things and thoughts conform. *A priori* judgments, then, are those which are not derived from experience, but belong to the inherent structure of the mind, which structure is one of the conditions of experience rendering it possible. *A posteriori* judgments are those derived from experience—that is to say, products of the already partially-furnished mind and external objects, the outcome of these two co-efficients.

Having analytically arrived at this position, it next appears that all Cognitions, of whatever kind, must be uninformative—that is, barren—unless they are capable of amalgamation ; unless synthesis among them is possible. Moreover, as they must necessarily partake of instability, unless they are *à priori*, he set himself to answer : How are synthetic judgments *à priori* possible? or, How can we distinguish or ascertain what knowledge we have that is independent of experience? The answer of the *Critique* may be set forth in the following propositions :—

1. Unless Cognitions are synthetical, they are not real Cognitions ; for they can add nothing to our previous store of knowledge.

2. Unless they are *à priori*, they cannot be universal or necessary, but only particular and contingent (variable).

3. Unless universal and necessary, they cannot be certainly true.\*

The train of reasoning was briefly as follows :—Examine analytically the mind. Firstly, we find a sensibility, a power of being affected by objects, a passive faculty of receptivity. Secondly, an understanding or a faculty of recognising the affectations of the sensibility. This is an active faculty, a power of response to Stimulus. The sensibility, however, though passive, has its laws, or conditions of receptivity ; and to discover these conditions we must separate that which is diverse and multiple from that which is one and the same. The objects are variable ; the passive functions of the mind remain invariable. The multiple and diverse he christens the material ; the invariable element he calls form. What, then, are the invariable elements in all Sensations ?—Space and Time.

Space is the external form of our sensibility. Time is the form as internal.

Space is the indispensable condition of Sensations—the form of external sensibility. It is not given in the materials of Sensation, since you may conceive the objects annihilated,† but cannot conceive the annihilation of Space. Not being given in the material element, it can only, therefore, be found in the formal.

Time is the internal form of our sensibility, for we cannot conceive things as existing, except as existing in time ; but we can conceive Time as existing, though all things were annihilated. Time, therefore, inheres not in material things, but is the sole property of the form.

Time and Space, therefore, are the indispensable conditions of all Sensation ; but, as they have not been given in the materials (externals), they are not deducible from experience ; consequently, they are *à priori* or *pure intuitions*. Sensibility, however, alone could give no knowledge ; understanding is necessary to combine the data by a process of imagination, memory, and recognition. The understanding, however, similarly to sensibility, possesses certain forms, which it also imposes on the objects presented to it. The function of the understanding, then, being defined as judgment, or the summation of imagination, memory, and recognition, we must ask : How many classes of judgments are possible ? They are four—“quantity, quality, relation, modality.” These are the categories or forms of the understanding, the *à priori* and intuitive solvents by which the mass of raw material is digested and converted into mental food. These all are synthetic and *à priori*. One step

\* See Kant, “History of Philosophy,” by G. H. Lewes.

† Such a conception was, no doubt, possible in the days of Kant ; but the development of the doctrines of the indestructibility of Matter and the permanence of Force renders this a difficult if not impossible conception for those well versed in modern physics.

more, however, is required. Understanding deals only with the things of sense, and therefore with particulars only; all judgments being but the comparison of particulars. The crown and unifier, therefore, of all Cognition is the reason. Reason deals only with the particulars presented to it by the judgments of the understanding, and, by ratiocination, reduces the particular to the general, and again educes the particular from the general. But reason has also its forms, not given in the presentations of the understanding, by which it generalises and particularises (unifies). They are three—firstly, the postulation of the unity of the Ego or the Self; secondly, the reduction of the many to the unity of the Non-ego, or the Not-self; and, finally, the postulation of a higher and ultimate entity, whereby or wherein the Self and Not-self are co-ordinated and combined. This is the Absolute, or God. These forms are *à priori* and intuitive, and consequently final, necessary, and universal.

This is the Kantian system, the challenge thrown down by him. This is the highest expression or recognition of the vital questions lying at the root of all philosophy. The crucial points are two—firstly, are there any truths possessing the characteristics of universality and necessity? secondly, if so, can these truths be deduced by ratiocination solely from the experience, or are they necessarily innate and *à priori*? Practically, the whole of the various systems of later philosophy are the varied answers to these two questions. All philosophies are now fairly in accord so far as the acceptance of the underlying persistence and postulate of Self. It is upon these further considerations that all the stress of battle lies, and this will be found the key to the consideration and solution, analytically and synthetically, of all the creeds.

In order, however, that the various answers, statements, and arguments may be codified, digested, and understood, that the real bearing of all the questions may be adequately appreciated, and the various fallacies grappled with and investigated, it is most necessary that a short examination, at least, of the edge of the tool which we must employ—namely, logic—shall be entered into.

It may be laid down as the first of the fundamental laws of the reasoning faculty, and, therefore, of logic, which is but the formal expression of such laws, that nothing must be taken for granted—nothing, in fact, must be accepted as a starting point, except under one of two conditions: either the postulate must have been already proven, and ready access must be kept open to that proof, or the postulate must be announced as an ultimate datum, which is incapable of further reduction or analysis, than which none other fact more introspective can be obtained; and as a preliminary, therefore, to all syllogisms, a critical examination of the premises should take place



in order that it may be made manifest whether they are accepted demonstrations or axiomatic postulates. This preliminary labour unfortunately is but too often overlooked or evaded; and it will be found that this precaution is of paramount necessity would we grapple with, unravel, or avoid the endless fallacies which are still confidently proclaimed, alike, by many professors of theology, philosophy, and science. Kant, it will be remembered, started with the postulate that there are truths which are necessary and universal, and he confirmed or demonstrated the truth of this postulate by a second affirmation—namely, that Space and Time, together with the categories of the understanding and of the reason, were not given in, nor were they to be deduced from, the data presented by externals. And the proof of his first axiom consequently hinges upon the proof of the second postulate, which has itself but too frequently been assumed to need no demonstration, and to be, in fact, axiomatic. With this contention we shall deal in the proper place; but, meanwhile, we must ask ourselves once more the question, Are there any necessary truths, and, if so, what? and how can we arrive at their demonstration?

A starting point there must be, and, as we have already pointed out, there is one, admittedly axiomatic by all the schools of thought. It is the postulation of the Ego, and with this indisputable truth, alone, we purpose to content ourselves. I AM is the axiom; but what does that connote? It is the contemplation of all things, external or internal, through the only possible medium, the Ego. It is, in fact, the unification of all things by their assimilation with Self. What, however, may we infer from this? What is the first step on the road? Simply the statement that I am what I am; that I equals I. This is the only resultant which may not be questioned; it is simply an unadorned and necessary corollary of the "*Cogito, ergo sum.*" I equals I. The component parts of this Ego may, by-and-by, perhaps, be discovered, but they may not be assumed. It will be asked, however, What then? Is not this simply a truism barren of all result, incapable of advancing knowledge? On the contrary, we shall find that this proposition is, in all respects, fertile, and contains the "promise and potency" of all metaphysical as well as physical life.

Let us contemplate the proposition, and see if we cannot ascertain wherein its essentiality lies—the essence wherein its certainty lies whereby it is carried home to our conviction as being universal, necessary, absolute, and final. It will be seen that the essential of the proposition is its equivalence. This equivalence is the only intelligible portion of the whole proposition. I, the Ego, still remains unknown, unanalysed, unintelligible. But I equals I. This is the intelligible, the certain. What, then, do we learn? The most important

and most vital of all deduced propositions is evolved: that the only unassailable, universal, and necessary truth is equivalence of statement, and that every other demonstration which we may arrive at partakes of the character of the contingent and variable; consequently, in broad terms, all necessary, universal, and ultimate truths must be brought under the one heading—namely, equivalences of statement. It has been urged, however, that equivalences of statement are barren and empty of all advance. Far from it. The ground is now cleared of all entangled growths and rubbish, and the bed-rock is laid bare, upon which foundation we may build. Nay, more: the very materials for our structure must be blasted out of this bed-rock alone; and in a temple constructed of such adamant and irresolvable material we need fear no longer any wind of doctrine that may arise.

$A = A$ . This is final, accurate, and ultimate. Through a complete misapprehension of the scope and necessity of this statement, it is often asked, How do you know that, in other worlds, in other regions of space, under other conditions,  $A$  may not equal  $B$ , or the whole alphabet, or the differential calculus? The answer is clear. Under infinite conditions and infinite powers,  $A$  may become changed into an infinity of possibilities. Under known conditions and calculated powers,  $A$  may become  $A^2$  or  $A^n$ ; but all the infinite possibilities of variation are all of them  $A$  *plus* or *minus* something else. Under no conditions and under no powers can  $A$  equal  $A^2$ . It might be urged, however, in contravention of this argument, that, if  $A = 0$ , then  $A^2$  would also equal nothing; and, therefore, that  $A$  and  $A^2$  both being equal to the same thing, they were, consequently, equal to one another. This is a class of fallacy which is but too often accepted as truth in the History of Philosophy, and is one which, unless the guiding and fundamental principle has been fully explained, is not only difficult to overthrow, but is the cause of endless hair-splittings and mental gymnastics.

Let us go back to our one axiomatic first principle, which is the perpetual standard for reference—the proposition hitherto considered barren, but, in reality, so fertile in its results. What is the axiom? I think, therefore I am. It is a postulate of something—of Being, excluding or antithetical to Nonentity. What is the outcome thereof? I equals I—an equivalence of statement concerning Being, carrying, if you please, the corollaries, Not-I equals Not-I, and Non-being equals Non-being. But observe, always, equivalences of statement; and under no circumstances can the I equal the Not-I, or Being equal Non-being. But in our assertion,  $A = A$ ,  $A$  is also the postulate of Being; therefore  $A$ , when it stands for Being, may not be represented by nought (0), which is the symbol of Nothing or Non-being; consequently, the primary postulate of this ingenious fallacy,  $A \text{ may} = 0$ , falls to the ground.  $A$ , re-

presenting Being, can never be postulated as representing o, or Non-being. It is simply a contradiction in terms, an impossible assumption, whereon no syllogism can be constructed—or, rather, whereon, if a syllogism is constructed, the conclusion is vitiated, not merely by the fallacy of the premise, but also by the adoption of what Sir William Hamilton called the excluded middle, or self-contradictory standard of reference. A, therefore, as a postulate of Being—limited, defined, conditioned Being—equals A, and A only, everywhere, forever.

This postulate applies with complete force to the assumptions of Mathematics, about which similar fallacies have raged. It has often been assumed that they possessed characteristics demonstrably and peculiarly their own, and that, partaking of the character of universality and necessity, they needed no demonstration, and were *à priori* and intuitional. Against these assumptions the Materialistic school have urged: All our knowledge proceeds from experience, and is, consequently, applicable to the phenomenal alone. There are no *à priori* intuitions; consequently your mathematical postulates of lines and angles are but phenomenally true, are but tentative hypotheses of your limited sphere, and, therefore, cannot be demonstrated to be universal and necessary. It can now be seen how mistaken, and yet how right, are both the combatants. All mathematical truths are analysable into equivalences of statement, and therefore they do partake, on the one hand, of the characteristics of universality and necessity; but, on the other, neither are they *à priori* and supra-experiential, being simply statements concerning hypothetical or potential existences.

The three interior angles of all possible triangles are equal to two right angles. Does this hold good for all creation and throughout all Space? Undoubtedly it does; it is universal and necessary. The possibilities of four dimensional or of  $n$  dimensional Space have no conceivable effect upon this proposition. Wherefore? Because it is simply a definition or statement of equivalence, and can be read either way. Two right angles are equal to the interior angles of all triangles. If there is, or can be, under any circumstances, a three-sided figure, whose interior angles do not equal two right angles, then simply this figure is not a triangle, but something else, which must be defined, and whose properties must be discussed by means of some supra-Euclidean geometry. What is a triangle? It is a hypothetical figure reposing in two dimensional space, conditioned, defined, and limited as such. The fact that we contemplate it and utilise it from the standpoint of three dimensional Space alters it not one iota; nor can it be itself, by any means, transferred into the domain of three or four or  $n$  dimensional Space. It is a definition or equivalence of two dimensions only, and, as such, it must remain. We have now seen that this postulate is universal and neces-

sary ; but is it, therefore, an intuition or an *à priori* judgment ? By no means ; it is merely an abstraction from experience, and is an equivalence of statement. The fallacy, then, of the endless questions, put so confidently forward as unanswerable, is now evident. How do you know for certain that, in other portions of the universe, there may not be round squares or four-cornered triangles ? A square, being the statement of equivalence, must ever and everywhere equal a square, and a triangle a triangle. Whenever and wherever a square commences to assume the attributes of a circle, then and there it ceases to be a square and becomes some other thing ; and a triangle, decorated with extra corners, loses its individuality or equivalence in the process.

The fact of equivalence, then, is found to be the only necessity deducible from our original postulate ; consequently the Kantian contention can no longer be upheld. Space, Time, are universal truths, and necessary only so far as they come under this heading of equivalences of statement. They are universal and necessary for us because they are implicated in the postulation of our egoity, and they may or may not, therefore, be necessary for all other personalities, and, it will hereafter be seen, cannot be demonstrated as final. All that we may arrive at concerning these forms of our thought is derivative, particular, contingent, therefore only universal and necessary within the scope of their equation, which equation is by no means exclusive. The source of these forms, then, having been discovered to be unintuitional, and not *à priori*, the demonstration of their *à posteriori* source and potentialities of application must now be discussed ; but, before we enter upon this subject, this all-important subject, suppose the question be asked : In other worlds, under other conditions, may not Space partake of other characteristics—may not Space become the Space of four or  $n$  dimensions ? Nay, more ; may not our Space be four or  $n$  dimensional, although we know it not ? The answer furnished by the Kantian disciples, bearing in mind the most modern developments of the higher mathematics, could only run somewhat as follows : “Space, truly, in other worlds, or even here, to other intelligences, may have possibly four or  $n$  dimensions ; but it is not the Space we postulate. Our Space has three dimensions only, length and breadth and thickness ; and this alone it is that we have any *à priori* intuition of.” Now, however, will appear most clearly the stultification of *à priori* assumptions from a double point of view.\*

\* The Kantian postulations were, it will be remembered—1stly. That all truth or demonstration arrived at from the consideration of experiences could only be derived or contingent. 2ndly. Therefore, that all necessary and universal truth must arise *à priori* ; and it was this test of universality and necessity which enabled the *à priori* and *à posteriori* elements of our cognitions to be certainly distinguished. It will

What is this *à priori* intuition, then, universal and necessary? We find it narrows down to space of three dimensions, of which alone we have *experience*. Clearly, then, the root of the idea arises from experience, and is in no wise intuitional. Contingent only it is found. No postulation of universality or necessity can be maintained, unless its formal expression is circumscribed to some careful equivalence of statement. No longer is it axiomatically, necessarily, and everywhere *à priori* true. Its scope and extent hinges upon the deductions of experience, taken in its widest sense, and Space as well as Time\* can thus be shown, together with all the forms of sensibility, understanding, and reason, as hinging on and derivative from experience alone.

In order that we may realise the actuality and scope of this proposition, a more detailed examination will be necessary. We must ask ourselves fairly the questions, What is Space? What is Time? The reply to these questions has been expressed by Herbert Spencer† as follows: "Space is the abstract of all relations of co-existence. Time is the abstract of all relations of sequence." This definition does not appear to go far enough, chiefly on account of the doubtful connotation of the word abstract. To abstract means, primarily, to take away from, or to take out of; and this is a process of pure analysis. The word, however, in the form, an abstraction, has an acquired, a secondary connotation, and conveys—faintly, it is true, but still conveys—an idea of subsequent construction. It is this element of construction which, it appears, the word abstract does not sufficiently convey in these definitions.

Experience or cognition or knowledge, it must be borne in mind, is the result of, and is possible only by the interaction of, two factors: stimulus of the object re-acted upon by the response of the subject, resulting in a third entity or "think," differing in kind from either of its parents, but which is nevertheless the only reality for us. We are not conscious of, cannot recognise, the object or stimulus *per se*, neither is the response of the subject an object of knowledge. The cognition is the outcome—the "think" of the Hylo-Idealism of Dr. Lewins,‡ the transfigured reality of the Synthetic philosophy of Herbert Spencer,

now, however, be seen that this is but a double fallacy. 1stly. All universal and necessary cognitions are found to be derivative and *à posteriori*. 2ndly. Although *à posteriori* and derivative, they are, nevertheless, universal and necessary; in fact, contingent, yet, nevertheless, universal and necessary—that is, truth of the highest order.

\* Time will be dealt with in the course of a few paragraphs.

† "Principles of Psychology."

‡ "Life and Mind," by Dr. Lewins. See also "Hylo-Idealism," by the author.



and the united outcome of the materials presented to sensibility, combined with the activities of the understanding and reason of the Kantian system.

It will now, therefore, be apparent that our cognition of Space is the outcome, the result, of the stimuli of co-existences, combined with the capacity of response by the mind ; and this capacity of response it is which Kant held to be possible only by intuition or *à priori*, and being consequently independent of all experience ; and which Herbert Spencer maintains also is, in one sense, intuitive, but that the intuition is derived from the collective experience of the race manifested through heredity—in other words, that each succeeding generation commences with a greater capacity of response to the stimulus acquired through inheritance of the gradually-accumulating powers of his ancestry. In either case, it will be seen that the process is essentially a synthetic one ; it is a generalisation acquired or built up from all experiences of co-existences. Consequently, we can amend the definition, and say that—

Space is the synthesis of all experiences of co-existence ;

Time is the synthesis of all experiences of sequence.

So far so good. We have now arrived at definitions of Space and Time—definitions derived from experience alone. But how can the derivations from limited experience become the certainties and necessities of the universe ? This, then, is the second problem that we have to investigate, and it may be expressed as follows : Are these conceptions of Space and Time universal and necessary ; and, if so, are they exclusively universal and necessary ? In other words, though they may be the concomitants of infinity, are they therefore the whole content of infinity—infinity itself ?

The foregoing discussion will throw much light on this somewhat neglected branch of investigation. It will be seen that we have, solely through experience, arrived at a definition or conception of Space and Time. But what is a definition ? It is simply a statement of what we mean by a given term. A definition is, therefore, nothing but an equivalence of statement ; it is the postulate of Being.

Space = the synthesis of all experiences of co-existence. This is universal and necessary ; it falls back for demonstration upon the underlying axiom we have postulated.

I = I, the postulate of my existence.

I exist is axiomatic.

I experience co-existences. Whether objectively real or only subjectively so matters not.

Space is the generalisation from these experiences.

Consequently, Space exists, being the generalisation or equivalence of my experiences.

The whole of this edifice is necessary and certain, as hinging on our original postulate, I am. But, it may be urged, if this is so, then, also, will Space cease to exist when my individual Ego comes to an end. Careful examination will, however, disclose that although, simultaneously with the cessation of the Ego, Space for that individual may cease to exist, nevertheless, Space *per se* can only undergo modification and cease to exist by the modification of all its factors. If other co-existences persist after the extinction of the individual Ego, so will also Space persist, although there remains no Ego to cognise or synthesise. It all depends on definition. If Space is defined to be a synthesis of co-existences made by one particular order of Beings—say “*Homo Sapiens*”—then it is a truism that, on the extinction of the race of “*Homo Sapiens*,” Space would cease to exist, because you have made man an exclusive factor in the equation—a necessary accompaniment of Space by virtue of your definition. So, in like manner, if you define Space as “the potentiality of all co-existences,” then, in the destruction of all existences, Space will also cease to be, because you have put it in your definition. But, if you once more amend your phraseology, and define Space as that eternal actuality wherein all other things or no-things may co-exist, then, indeed, on the destruction of all things, Space would still remain, because you have so defined it.\*

So far the generalisation of Space is shown to be purely experiential. But we are still no further advanced in knowledge. The general axiom being accepted, that Space is, the next question that arises is, What is Space? What is this synthetic generalisation from our experiences? As the generalisation of the concept has been shown to be experiential, so is the particularisation of the concept experiential also.

Space is three dimensional, we affirm. Wherefore? Because we have experientially ascertained, by the examination of all available Not-self, carried out by the organised, heredity-strengthened, and developed Self, that there are three directions or modes of progression possible—three directions differing in kind, inharmonisable, opposite, and mutually destructive; and that all other potentialities of direction

\* This last definition, even of Space, however, is in many respects faulty in the extreme. In the first place, it is a contradiction of other terms to suppose that all other things might co-exist in Space, because Time remains to be considered, and it requires little introspection thereof to make it clear that past and future events are decidedly things yet for us; at all events, they may not co-exist in Space. Nay, more; even the term co-existence in Space requires a pretty careful definition, for it may be pointed out that phenomena possessing extension cannot co-exist in the same point in Space, but only in different points; and that phenomena not possessing extension can be hardly said to co-exist in Space at all, but only in Time; for how can things which are the negation of extension co-exist in or be harmonised or connected with that which is nought but the affirmation of all extension (Space)?

experientially lie within these bounds ; consequently, three dimensional Space is, or, Space is of three dimensions. This is the analytic result of our experiences. It sets forth the content of the cognition Space, as arrived at by investigation. This is a postulate of Being and an equivalence of statement ; consequently, it is universal and necessary. But is it, therefore, also final and exclusive ? By no means. Derived from experience, its finality hinges upon experience. Let new factors of experience be forthcoming, and new certainties arise, although not to the destruction, necessarily, of the old certainty, or, as will be seen, not even necessarily to its modification.

Apart, however, from the consideration of such higher potentialities, we have unmistakably learnt—

Firstly. That three dimensional Space (that of which we have experience) certainly exists, universal and necessary.

Secondly. Time, of unirectilinear sequence or expression, the one dimensional Time (of which we have experience), also exists, universal and necessary.

Thirdly. Universal and necessary as these cognitions have been demonstrated, they are shown to have been arrived at solely through experience, and that, though existing and necessary, they are by no means exclusive.

The universality and necessity of three dimensional Space, however, in no way excludes the potentialities of four or  $n$  dimensional Space—in which latter, indeed, three dimensional Space may be inherent or synchronous with—any more than it interferes with the potentialities of one or two dimensional Space, which inhere or exist synchronously with it, and which are recognised as the domain of some of the formulæ of geometry.

Whether one, two, three, four, or  $n$  forms exist, either potentially or actually, is ascertainable through reason acting on the data of experience alone ; and, as we have no direct experience of  $n$  dimensional Space, we cannot define, realise, cognise it ; and, being unable to cognise it, we are unable to recognise its existence ; but it by no means follows that we must exclude it from possibility. Wider experience through fresh faculties may at any time bring it within the sphere of knowledge. Three dimensional Space, however, would not cease to exist ; it is still universal and necessary, as it maintains its equivalence, being the synthesis of definite co-existences defined and limited by certain experiences. Four dimensional Space would be the synthesis of a wider range of co-existences, some fresh experiences being added to those which formed the original conception ; but the original synthesis from the original data will persist ; consequently, the corollary is clear : Given the existence of four or  $n$  dimensional Space, it must exist

synchronously with, or inclusive of, the Space of one, two, and three dimensions already known, the equivalence of the latter with the original data—and, therefore, their validity—remaining always the same.

Many fallacies, however, have arisen from the complete misunderstanding of the real value and significance of an equation. An equation or equivalence of statement is merely "a postulate"—either of Being or of Non-being, as the case may be—identical in *all* respects on both sides of the equation.  $A = A$ ; line = line; a ghoul = a ghoul. Whether, however, these varied postulates are fact or fiction—that is, what A is, what line is, what ghoul is—whether they exist possibly, actually, or imaginatively, can be demonstrated only through the deductions from available data—that is, through experience.

$A = A$ , or a ghoul = a ghoul, being equivalences, are necessary truths; but it must not for one moment be supposed that these are, therefore, actualities of existence.\* All the *discovery*—defining or conditioning, limitation, description, knowledge—has yet to come. We do not yet know whether they are postulates of Being or of Non-being. So also Space = Space; but what Space may be, or its content, is deducible from experience alone.

The exact value of equivalence being, now understood, we may turn to the consideration of Time. Time, it has been urged, is, similarly to Space, intuitional, because it is a necessary factor or content of eternity or infinity, of which said eternity or infinity we can have had no experience. Herein lies the fallacy. Space has been assumed to be wholly intuitional and independent of experience, because no bounds, no limit, could be placed upon it in thought; and consequently, being limitless, it was *supposed* to be the equivalent of infinity (of extension). But it must be noted that, although we have not put bounds or limits to three dimensional Space, it has been demonstrated that it is not necessarily the completed form of Space, as had been supposed, but *may* be only an *imperium in imperio* existing synchronously with an infinity containing far wider potentialities; existing within infinity, and, consequently, not limited as far as its own potencies are concerned, but comprised in and accompanied with far higher equivalences.

So, also, with Time. Time is succession, as Space is co-existence. Co-existences and sequences, however, involve division, and consequently limitation. No continuation or multiplication of limitations can possibly represent or exhaust the potentialities of infinity, although the potentialities of division and limitation exist synchronously with,

\* "To think of a chimera is to think it as real, but not to judge it even possible" ("The Principles of Logic," by F. H. Bradley).

and are enfolded in, infinity. Infinity itself, bear in mind, is incapable of division, because, as Gillespie pointed out, that which is capable of division cannot be the infinite. The conception of the division of infinity is a contradiction in terms, as the point of division constitutes beginning and ending. Infinity divided would present the contradiction, on the one hand, of that which has no beginning (infinite prolongation) ceasing to be infinitely prolonged, and of that which has no ending (infinite prolongation—the two being synonymous terms) also ceasing to be infinitely prolonged. Consequently, although we can postulate both Space and Time as existing or continuing or being prolonged *to* infinity, no longer can it be presumed that they are the only potentialities of infinity.

Infinity may be defined, after Gillespie, as that which is incapable of division. Space and Time, however, can be defined as that which is the essence of all divisibility; consequently, no conversion of Space and Time into Infinity is possible, because the one is a totally different and far higher equation than the other. Space and Time are the synthesis of infinite divisibility; but the synthesis of infinite division must never be confounded as being the *equivalent* of that which is incapable of division. Infinite extension, it will be seen, implies a contradiction of terms; for extension connotes that which is capable of division, and cannot, therefore, itself be infinite. Extension to infinity, if you please; but never infinite extension.

Space, as we have seen, is experientially known as the equivalence of three dimensions for us, or the expansion of the Ego from the Here in three linear directions or planes, each direction being at right angles to the other two, and all *experienced* forms are recognised as being contained within these bounds. Time, however, is a postulate of one dimension only, being the projection of the Ego, from the Now, in a right line into the past and future; and this continuity of succession in uniform manner is the whole content of what *we* call Time, and this, reduced to definition or equivalence of statement, like Space, is necessary and universal.

Firstly. Time=continuity of succession, or sequence.

Secondly. Continuity of succession or sequence is—Time.

This is the equivalence built up and obtained from the data of experience.

Similarly, however, to the Spatial equivalent, it may *not* be held to include all the potentialities of infinity, because, prolonged to infinity, it still maintains the characteristics and equivalence only of Time, and takes not on, nor displays, nor can it acquire or make manifest, the potencies of the Infinite. Consequently, in like manner, as it has been demonstrated that the potentialities of Spatial infinitude must be recog-



nised as being possibly of  $n$  dimensions, the limitation of which to three, four, or any number of dimensions may not be asserted *axiomatically*; so, also, the potentialities of durational infinity must be regarded as being possibly of  $n$  dimensions or capacities also. And as it may yet be made manifest, theoretically or demonstratively, that Space has four or  $n$  dimensions, which, moreover, are not destructive of, but are synchronous with, Space of three dimensions, so also must it be accepted that Duration of two or  $n$  potentialities is possible, and may exist synchronously with that uniformity of succession of which the data of experience have alone, as yet, enabled us to form cognition. So that, as our symbols of cognition of both Space and Time are right lines, progression in Space being measurable, or conceivable only by progress in Time—as Space may yet be cognisable of four or  $n$  dimensions—so also may potentialities exist, which may be symbolised as rectangular, cubical, or spherical Duration, existing with and around, but not destructive of the unirectilinear Time, with which we are at present alone acquainted.\* Whether such potentialities are merely theoretically possible, or whether they are or may become actualities, can be discussed only upon such data as may, from time to time, be forthcoming; but, meanwhile, it is an enormous step towards fixing our ideas to remember that, when discussing the Infinite or Absolute—potentialities of infinity being carefully contradistinguished from the limitations and potentialities of prolongations to infinity—generalisations which are above the scope of the possibilities of limitation and division may be conceived without contradiction or destruction of the data of sensuous experience. And, in consequence, a generalisation applicable only to the Infinite and Indivisible becomes a demonstrated possibility, and it is, therefore, now conceivable that the potentialities of infinity may contain or may be a crystallisation of all possible modes of duration and extension into an omnipresent, everlasting, and indivisible Here and Now.

Space, Time, and the truths of mathematics having been reduced to equivalences, and having discovered that their content is ascertainable by the reason alone, and, consequently, is contingent on the outcome of the data or materials of the experience, and that such certainty as they possess inheres simply in the equivalence; and, moreover, that a similar train of reasoning supplies an identical demonstration concerning the remainder of the categories—even those of the reason, the Ego, the Non-ego, and the Absolute, as will be duly expounded hereafter in the synthetical disclosure of the Absolute—there remains one more class

\* In fact, as progress in three dimensional Space is measurable by progress in unirectilinear Time, so it may, not unreasonably, be inferred that progress in four or  $n$  dimensional Space may require for its measurement progress in curvilinear or  $n$  rectilinear Time.

of conceptions which, although the reasoning is identical, as there has been much dispute and misunderstanding, it will be well for us here briefly to consider.

This class of conceptions, known as causes and effects, for the sake of conciseness, may well be grouped and unified under the sole proposition known as Newton's second law of motion, which, *mutatis mutandis*, adequately represents the whole of this description of cognitions. This second law may be formulated as follows:—When A is an impressed force and B the produced motion, then, if A produces B,  $2A$  will produce  $2B$ , Newton's amplified statement being, "If any force generates a motion, a double force will generate a double motion, a triple force triple the motion,"\* etc., which we may condense into the brief axiom, If A produces B, then  $2A$  will produce  $2B$ . The universality and necessity of these axioms have led, as heretofore, to the assumption that they are *à priori* and intuitional, possessing a validity identical with the Kantian categories; but, on the other hand, it has also been vigorously maintained that they are the outcome of experience and demonstration, and are, consequently, *à posteriori* and contingent—that is, not necessarily universal.

Herbert Spencer has been the most recent, as well as by far the most powerful, advocate of the intuitive and *à priori* source of these and similar cognitions,† although the line of absolute division between Kant and Spencer must never be forgotten, Kant's *à priori* intuitions being the supernatural furniture of the mind, the existence of which as such is a real demonstration of a supernatural factor. Spencer recognises the intuitions, but accounts for their presence through organised and inherited experience. On the other hand, the entirely individual experiential nature of such cognitions has been vehemently urged by the extreme left of the physicists—Professor Tait, Sir William Thomson, Professor Sidgewick, and others.

The crux of the quarrel can best be pointed out in the words of Mr. Collier:‡ "Mr. Spencer alleges that this cognition of proportionality is *à priori*—not in the old sense, but in the sense that it grows out of experiences that precede reasoning. His opponents, following Professor Tait in the assertion that physics is a purely experimental science, containing, therefore, no *à priori* truths, affirm that this cognition is *à posteriori*, a product of conscious induction."

Both sides, as we have often seen, are partly right and partly wrong, as will readily appear if we refer the matter to our original standard.

\* See "Principia."

† See Herbert Spencer's "Principles of Psychology," but especially the replies to criticisms; Appendix A; Essays, vol. iii.

‡ *Nature*, June 4th, 1875.

In the first place, what, if any, is the universal and necessary truth contained therein? Simply such as can be sublimated down to an equivalence of statement. A produces B; consequently  $2A$  will produce  $2B$ . Why? Because it is an absolute equivalent. If  $2A$  is to produce something other than  $2B$ , some power or factor must be added or subtracted to initiate the disturbance or difference. In other words, equivalence cannot pass into non-valence without some disturbing cause. A balanced scale must remain eternally balanced until some fresh factor is brought upon the scene.

A, represented let us say by  $3 \times 3$ , produces B, or 9; consequently  $2A$ , or  $(3 \times 3) \times 2$ , which is 18, produces, or is the equivalent of,  $9 \times 2$ , which is also 18.

This is the so-called intuitional, *à priori*, universal, and necessary truth which is now seen to be certainly posited only through our recognition of what necessary truth in reality is, and arises directly from the undemonstrable though necessarily-accepted postulate of the Ego— $I = I$ ; and so far only is the intuition defensible. What  $3 \times 3$  is, or what 9 is, or  $(3 \times 3) \times 2$ , or  $9 \times 2$ , are all secondary considerations, which are ascertainable solely through the data of experience; but the eternal verity remains that, whatever  $3 \times 3$  may be, or whatever 9 may be demonstrated to contain, *if  $3 \times 3 = 9$ , then  $(3 \times 3) \times 2$  will equal  $9 \times 2$* . If  $A = B$ , then  $2A$  is the equivalent of  $2B$ . The experiential part it is which enables the definition of the factors to be given.

All classes, then, of truths which have hitherto been classified as universal and necessary are found to be reducible to equivalences of statement; but, although universal and necessary, the exceedingly important conclusion is forthcoming: *they are not therefore exclusive*. The real meaning or content of cognitions, or ideas, or knowledge, or definitions, arises only through the investigation of the terms of the equation, and, although our experiences are doubtless strengthened, organised, and enlarged through heredity, or the transmitted experience of the race, nevertheless the postulates derived therefrom, although perhaps completely valid in themselves, are *never* exclusively so, nor can they be until the data of experience are co-extensive with the totality of all things.

The more complete the data, the more exclusive the conclusions; but the only data universally applicable by us lie in equivalence of statement; consequently the only universal and necessary class of truths within our grasp can be generalised as equations directly deducible from  $I = I$ , the axiomatic foundation of our philosophy.

The strength and glory of the Kantian predication is that the qualities of universality and necessity, revealed to us by Space and Time, lead up to a demonstration and description of  $\delta \theta ε \acute{o} \varsigma$ , the God,

the Absolute, and that here is the certain point of touch and relation between the finite and the infinite—between the Conditioned, the Relative, and the Unconditioned, the Absolute.

This position may scarcely now be maintained. The predicates of the Absolute, given intuitionally by means of supra-sense, have been resolved into deductions from experience, which, although necessary and universal, are by no means exclusive. Space and Time are finite forms, involved in, but not, the Infinite. Put forward as a conception, or attribute, of  $\delta \theta\epsilon\acute{o}s$ , they are totally fallacious and misleading, being but a limitation of or conditioning of the God within the content of our experience. Nay, more: not only is it a degradation of  $\delta \theta\epsilon\acute{o}s$ , but it is a degradation of  $\delta \alpha\nu\theta\rho\omega\pi\omicron\varsigma$  also, because it posits, as the point of communion—as the highest point where men may stretch out towards the Infinite—the confined and partial actualities of Matter, Motion, and Form.

It remains, then, to be demonstrated that a far higher conception, a profounder truth, is attainable by us. The deductions of experience may be noble, exhaustive, and sufficient in the sphere of phenomena, in the domains of sense; but, extended to the kingdom that is not of this world, to the plane of higher equations, they are but words, void and of no application. The real point of contact with the Absolute, to whom there is neither yesterday, to-morrow, nor forever, is, in our fundamental postulate, the "I," the postulate of Being; and, after consideration of the diverse modes of sense, it will be shown how in the higher unity alone may all equations harmonise; and Space and Time, and Past and Future, Self and Not-self—all are hushed and laid to rest in the bosom of the everlasting affirmation, "I am that I am."







PART II.

MATERIALISM.



## MATERIALISM.

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MATERIALISM, that system which must first fall under our consideration, is, of all the systems of philosophy, the most widely diffused. It is permeating in a remarkable manner the general tone and habits of thought of the people, and it displays a promise of acquiring a ruling domination over their acts and habits of life.

This tendency of thought sprang co-eval with the early dawns of philosophy; it grew and flourished while the mythologies were dying, and for a time prevailed and prospered. In the spring-time of civilisation, however, there was but little depth of soil in which it might take a firm and abiding root. That resolute and accurate questioning of Nature, which is so remarkable a feature of these latter generations, was almost wholly wanting. Theories and explanations, truly, were abundant; but, as they were evolved mainly from the imagination, from the inner consciousness of some speculative individual, and were neither educed from the facts of phenomena nor able to stand the tests of experience and verification, Materialism failed to hold its ground, and gradually passed away when confronted by other speculations of a similar character; speculations, it may be said, in no wise different either in their imaginative source, or in their ulterior accuracy, but differing in one all-important detail—namely, that they laid claim to a supernatural origin and sanction, and consequently

demanding and received a willing and unquestioning acceptance. In other words, as effete religions bowed and died, unverified Materialism assumed a brief ascendancy, until supplanted by the cosmology and teleology of newer forms of worship and higher faiths. The world was not then ready for the revelation of "Matter, Force, and Law." Its prophet (Science) had not yet appeared, making "the way plain before his face." Christianity and, later on, Mohammedanism supervened, and for eleven centuries at least this wave of thought was stayed; and it was not till the revival of learning—initiated, it may be said, by Roger Bacon in the thirteenth century—that this thesis began once more to be formulated. It is, however, to the eighteenth and nineteenth centuries that we must chiefly turn for the development and full expression of the Materialistic or Atomic philosophy. Atomism, pushed forward as it is by the untiring research and self-sacrifice of noble minds, aided by instruments of minutest accuracy and devices of marvellous ingenuity, claims to have read the riddle of both the worlds, Here and Hereafter; and it is little wonder that mankind, confused and wearied, with the doubts, uncertainties, and conflicting clamours of philosophies and creeds, should lend a willing ear, hoping that a road at last is found whereby escape may come from the pit-falls, briars, and thorns of the theological wilderness. What this thesis, therefore, is, its premises and conclusions, it is now our task to examine.

*Materialism* was founded by Democritus of Abdera five hundred years before the Christian era. He taught that sensation constitutes thought, and he was, moreover, the originator of the Atomic theory. He held that atoms were the primary elements, and that all things were but modes of one of the triple arrangements—namely, configuration, combination, and position. In this first state-



ment he has been followed, in the latter days, by Condillac, who summed up, "*Penser c'est sentir*;" Destutt de Tracy with "*L'idéologie est une partie de la Zoologie*;" Cabanis with "*Les nerfs voila tout l'homme*." With these maxims Moleschott, Carl Vogt, and Büchner are to-day in one accord. In his second principle he has been supported by Leibnitz, who, in his "Monadologie," developed and formulated "Atomism," which is the basis, and is practically equivalent to the whole, of the scientific teaching of the modern physicist. This Materialism, then, or Monism, as it is now most frequently called, is the system which, starting from the standpoint of ultimate self-existent Matter—including in the idea of Matter, Force; regarding Force as an essential ingredient or quality of the Matter-basis, according to the more generally-accepted theory, or, according to another which is also influentially supported, believing that the original material atom is absolutely dead, inert, without any quality of any kind, save only extension, and that Force is a something annexed to this lifeless thing—Matter, in fact, being "the potentiality of infinite passivity, and Force the potentiality of infinite activity"\*—proceeds to show how all things, up to and including the thinking self, can be produced or evolved without outside or adventitious aid. Ill content, however, with the sphere of phenomena, which is, as will be seen, its legitimate domain, it endeavours, by a prolongation of its method, to pass from the phenomenal to the noumenal. Not but the attempt is laudable enough in itself; but, unfortunately, when the unpleasant truth has been realised that the postulates and methods of the one lose all validity and become barren of result when applied to the other, refuge is too often taken in a harsh and bitter dogmatism

\* Fra : Ollæ, *Secular Review*, April 18th, 1885.

as overbearing and intolerant in its character as the cruder forms of uneducated and impulsive theology. Matter, Force, and Law, posited in Time and Space, compose the categories, the conditions, of the phenomenal, the relative; and the weapons so effective here are observation, experiment, and verification. No observation, no experiment, can be applied to the Noumenal and Absolute, and it is only by the highest exercise of the pure reason that recognition of such *presence* may be brought about.

Materialism regards Matter, or Nature (*sic*), as self-contained, and denies the existence of any thing or any power "super-material"—that is, above, beyond, or outside Matter. All Matter is endowed with life, or the potency of life; and the line of demarcation, so long drawn between dead and living substance, is, in reality, non-existent. Out of the ultimate homogeneous atoms, by virtue, as it were, of their own ferment, inorganic, and finally organic, Nature has evolved. As the eye gradually developed from the action of the solar rays upon the exposed portion of primeval protoplasm, so all other faculties, including nutrition, reproduction, motion, hearing, speech, arose by virtue of the two great principles of attraction and repulsion, assimilation and rejection. Speech and thought mutually stimulated or produced each other, and feeling, intellect, and so-called will are, in their last analysis, but modes of motion—vibrations proceeding along lines of least resistance, infinitely diversified or individualised by the various mechanical states of the atoms of each separate body; owing their varied manifestations to the kaleidoscopic transmutations of hereditary tendencies and accidents of environment.

Such, in brief, is the formula of the most advanced "Modern Materialism," frequently discussed as the

“Mechanical Theory” of the universe. This is not the place to enter into a lengthy consideration of the whole of the scientific details of mechanics, astronomy, biology, mathematics, and so forth—for which, indeed, an encyclopedia would be necessary—upon which the theory is founded, and by which it is built up. Suffice it to say that this is a fair and accurate, although a highly-condensed, statement of its general propositions; and, in support of this contention, we propose to quote somewhat freely from authorities bearing on the subject.

Treviranus, the German nature-philosopher, in his “Biology,” writes: “The living individual is dependent upon the species, the species upon the fauna, the fauna upon the whole of animate nature, and the latter upon the organism of the earth. Every living body exists in consequence of the universe; but the universe, on the other hand, exists in consequence of it.”

Oken, of the same period and school, and a contemporary of Goethe, in his “Outline of the Philosophy of Nature,” A.D. 1802, postulates that the phenomena of life in all organisms proceed from a common chemical substance, or a general vital substance, which he called *urschleim*, or original slime. This slime, which is now known as protoplasm, or cell substance, is definitely accepted by scientists, and is regarded as one of the grandest results of the microscopic researches of the last twenty years, and with which the name of Max Schultz is so honourably identified.

Stallo, in his “Concepts and Theories of Modern Physics,” writes as follows: “Modern physical science aims at a mechanical interpretation of all the phenomena of the universe. It seeks to explain these phenomena by reducing them to the elements of mass and motion, and exhibiting their diversities and changes as mere differences and variations in the distribution and aggre-

gation of ultimate and invariable bodies, or particles in space. Naturally, the supremacy of mechanics became conspicuous first in the domains of those sciences which deal with the visible motions of palpable masses; but its recognition is now all but universal in all the physical sciences, including such departments of scientific inquiry as are conversant about the phenomena of organic life. ....The founders of modern physics proceeded upon the tacit, if not the declared, assumption that all true explanations of natural phenomena are mechanical explanations.....But it was not long after the days of Stevinus, Fermat, and Galilei before the doctrine that all physical action is mechanical was stated in terms. Even during the life of Galilei—a year before his death—Descartes announced that all variations of matter, or all diversity of its forms, depend on motion.\* And nine years before the appearance of Newton's 'Principia' Thomas Hobbes declared that change—*i.e.*, physical change—is of necessity nothing else than motion of the parts of the body changed.”†

Leibnitz was even more explicit, asserting that the doctrine in question is a self-evident truth. “Everything in nature,” he said, “is effected mechanically—a principle which can be made certain by reason alone, and never by experiments.‡.....The most definite statements, however, of the proposition, that the true aim and object of all physical science is a reduction of the phenomena of nature to a coherent mechanical system, are found in the scientific writings published during the

\* “*Omnis materiæ variatio sive omnium ejus formarum diversitas pendet a motu*” Cartes, “*Princ. Phil.*,” ii. 23).

† “*Necesse est ut mutatio aliud non sit præter partium corporis mutati motum*” (Hobbes, “*Philos.*,” prima, pars secunda, ix. 9).

‡ “*Tout se fait mécaniquement dans la nature, principe qu'on peut rendre certain par la seule raison et jamais par les expériences*” (Leibnitz, “*Nouveaux Essais*,” Opp. ed., Erdmann, p. 383).

second half of the present century, since the discoveries made in organic chemistry by the aid of the atomic theory, the revelations of the spectroscope, the establishment of the doctrine of the conservation of energy, and the promulgation of the mechanical theory of heat, with its complement, the kinetic theory of gases." Thus Kirchhoff, one of the founders of the theory of spectral analysis, said, in 1865: "The highest object at which the natural sciences are constrained to aim is the determination of the forces which are present in nature, and of the state of Matter at any given moment—in one word, the reduction of all phenomena of nature to mechanics."\*

No less pointed are the words of Clerk Maxwell. "When a physical phenomenon," he writes, "can be completely described as a change in the configuration and motion of a material system the dynamical explanation of that phenomenon is said to be complete. We cannot conceive any further explanation to be either necessary, desirable, or possible.†.....If we turn from physicists to the physiologists, we meet with declarations equally explicit." "Every analysis," said Ludwig, in 1852, "of the animal organism has thus far brought to light a limited number of chemical atoms, the presence of the light (heat) bearing æther and of the electric fluids. These data lead to the inference that all the phenomena of animal life are consequences of the simple attractions and repulsions resulting from the concurrence of these elementary substances."‡ In a similar strain, Wundt, writing twenty-five years later, states: "The

\* "Kirchhoff, Ueber das Ziel der Naturwissenschaften" (Prorektoratsrede, Heidelberg, 1865, sec. 9, p. 24).

† Clerk Maxwell, "On the Dynamical Evidence of the Molecular Constitution of Bodies" (*Nature*, March 4th and 11th, 1875).

‡ Ludwig, "Lehrbuch der Physiologie des Menschen" ("Band i, Einleitung," p. 2).



view that has now become dominant (in physiology), and is ordinarily designated as the mechanical or physical view, has its origin in the causal conception long prevalent in the kindred department of natural science, which regards nature as a single chain of cause and effect, wherein the ultimate laws of causal action are the laws of mechanics. Physiology thus appears as a branch of applied physics, its problem being a reduction of vital phenomena to general physical laws, and thus ultimately to the fundamental laws of mechanics.”\*

In the same sense Huxley speaks of that purely mechanical view towards which modern physiology is striving.† “With few exceptions, scientific men of the present day hold the proposition, that all physical action is mechanical, to be axiomatic. And they deem the validity of the mechanical explanation of the phenomena of nature to be, not only unquestionable, but absolute, exclusive, and final.....It is claimed that, if it is impossible theoretically to construct a living organism out of molecules or atoms and mechanical forces, under the guidance of the principle of the conservation of energy, the laws of electric or magnetic coercion, the first and second laws of thermo-dynamics, etc., the attempt to frame a theory of life in harmony with the laws controlling ordinary material action must be utterly abandoned.”‡

Ernst Haeckel, in “The History of Creation,” speaks

\* Wundt, “Lehrbuch der Physiologie des Menschen” (4te Auflage, p. 2).

† “Lay Sermons, Addresses, and Reviews,” p. 331 (Appleton’s edition).

‡ “Concepts of Modern Physics,” p. 15, *et seq.*, Stallo, International Scientific Series.—In this work is to be found an ample and accurate statement of the doctrines and logical sequences of modern physicists. These doctrines are examined with care, learning, and ability; and, as a result, they are shown to be, in reality, self-contradictory, unproven, and absurd. Since the publication of this work it is remarkable how the assertions, up till then so confident and self-assertive, have dwindled away, and the Atomic theory has ceased to be dogmatically regarded by many as even provisionally correct.—W. B. McT.

out with no uncertain sound. He writes : “ We must decidedly adopt that view of the universe which is called the *mechanical* or *causal*. It may also be called the Monistic or single-principle theory. The mechanical view of nature has, for many years, been so firmly established in certain domains of natural science that it is unnecessary to say much about it. By the theory of Descent (conceived by Lamarck and formulated and perfected by the illustrious Darwin) we are for the first time enabled to conceive of the unity of nature in such a manner that a mechanico-causal explanation of even the most intricate organic phenomena—for example, the origin and structure of the organs of sense—is no more difficult, in a general way, than is the mechanical explanation of any physical process ; as, for example, earthquakes, the courses of the winds, or the currents of the ocean. We thus arrive at the extremely important conviction that *all natural bodies* which are known to us are *equally animated*, and that the distinction which has been made between animate and inanimate bodies does *not* exist.”\*

Büchner, in his “ Force and Matter,” declares : “ For Matter is not, as the countless followers and adherents of the Spiritualistic idea assert, dead, unquickened, lifeless, but, on the contrary, full of the most shining life ; and not an atom of it is without motion, but is in constant, uninterrupted movement and activity.” And again : “ It [Matter] is not *without feeling*, but is full of the most acute sensibility in the creatures it brings forth ; nor, lastly, is it devoid of *spirit* or *thought*, but, on the contrary, developes in the organs destined thereto, by the peculiar kind and delicacy of their composition, the

\* “ History of Creation,” by Ernst Haeckel, translated by E. Ray Lankester, vol. i., chap. i., p. 23.

highest mental potencies known to us. What we call life, sensibility, organisation, and thought are only the peculiar and higher tendencies and activities of Matter, acquired in the course of many millions of years by well-known natural processes, and which, in certain organisations or combinations, result in the self-consciousness of Matter.”\*

It will tend, we think, to facilitate an adequate comprehension of the true bearing of this doctrine if we here pause for a moment in our quotation of authorities to briefly consider one of the most generally advanced objections and the answer thereto. Whether both question and reply are not beside the mark may be considered later on.

The objection, however, to this *special portion* of the theory of development is usually set forth as follows:—It is all very well to premise, there is no line of demarcation between dead and living Matter; is not this simply an evasion of the difficulty? Given in the premise that Matter is instinct with life, there is, then, no break in the chain, for by means of evolution, although complexity of life is the end, still simplicity of life was in the beginning. Assuming, however, that the thesis has to be proved, instead of taken for granted, as you have unmistakeably done, what evidence, then, we ask, have you that non-living Matter ever does take on the specialities of life? Compound you molecules of carbon, nitrogen, hydrogen, or what not, and produce this living protoplasm if you can. The reply of the Monist is two-fold. In the first place, because, by cunning, there cannot be manufactured in the laboratory organic compounds from the commingling of inorganic atoms, this failure may possibly—nay, probably—be only due

\* “Force and Matter,” by Büchner, Preface to Tenth Edition p. 73.

to ignorance, which may yet vanish away. But, granting that success may never be attained, is it not to be assumed that, in the workshop of Nature, during the dim remoteness of the world's great past, this compounding might not have been accomplished under circumstances of temperature and pressure that we wot not of? In the second place, moreover, evidence has, in the last few years, arisen which fills the gap; for, in the laboratory, organic compounds, partaking of the character of life, such as urea and others, have actually been built up by the manipulation and commingling of so-called purely inorganic substances. The receipt for protoplasm, it is true, has yet to be formulated; but so far have we advanced on the road of production of vital combinations from non-vital elements that the possibilities of further progress are no longer to be disposed of by the mere denial of such possibilities, and, for the purposes of argument, negative assertions have ceased to be of any weight in the balance.

Here is the evidence of Herbert Spencer on the point: "Organic matters are produced in the laboratory by what we may literally call *artificial evolution*. Chemists find themselves unable to form these complex combinations directly from their elements; but they succeed in forming them indirectly, by successive modifications of simpler combinations. In some binary compound, one element of which is present in several equivalents, a change is made by substituting for one of these equivalents an equivalent of some other element; so producing a ternary compound. Then another of the equivalents is replaced, and so on. For instance, beginning with Ammonia,  $\text{NH}_3$ , a higher form is obtained by replacing one of the atoms of hydrogen by an atom of methyl, so producing methyl-amine,  $\text{N}(\text{CH}_3\text{H}_2)$ ; and then, under the further action of methyl, ending in a further

substitution, there is reached the still more compound substance, dimethyl-amine,  $\text{N}(\text{CH}_3)(\text{CH}_3)\text{H}$ . And in this manner highly complex substances are eventually built up. Another characteristic of their method is no less significant. Two complex compounds are employed to generate, by their action upon one another, a compound of still greater complexity; different heterogeneous molecules of one stage become parents of a molecule a stage higher in heterogeneity. Thus, having built up an acetic acid out of its elements, and having, by the process of substitution described above, changed the acetic acid into propionic acid, and propionic into butyric, of which the formula is  $\left\{ \begin{array}{l} \text{C}(\text{CH}_3)(\text{CH}_3)\text{H} \\ \text{CO}(\text{HO}) \end{array} \right\}$ ; this complex compound, by operating on another complex compound, such as the dimethyl-amine named above, generates one of still greater complexity, butyrate of dimethyl-amine  $\left\{ \begin{array}{l} \text{C}(\text{CH}_3)(\text{CH}_3)\text{H} \\ \text{CO}(\text{HO}) \end{array} \right\} \text{N}(\text{CH}_3)(\text{CH}_3)\text{H}$ . See, then, the remarkable parallelism. The progress towards higher types of organic molecules is effected by modifications upon modifications, as throughout evolution in general.”\*

Here are the question and the answer, and it will be seen that, along the lines of development, the answer of the physicist is sufficient and complete. What, however, does it amount to, and is there still an evasion of the crucial point? It is but a description of a process which, for the purposes of argument, may be accepted as being in all essentials accurate, and it is complete in itself and satisfactory, inasmuch as it appertains to the legitimate domain of science, which is observation, experiment, and verification. Finding that a physical basis or constituent

\* Spencer, “Principles of Biology,” vol. i., appendix, p. 482.



of life or organism evolves from what has hitherto been supposed to be the lifeless or inorganic, it is a legitimate assumption that the potentialities of life inhere in the inorganic. So far the contention of the Materialist, subject to more complete demonstration, which, however, is within the bounds of expectancy, may hold good ; but the assumption still remains—simplicity of life is in the beginning. What, however, is this beginning ? To this still further quest no satisfactory answer is returned. From tangible, experiential molecules you may strive to pass to intangible and unverifiable atoms ; but the gulf has not yet been bridged.

We have briefly touched upon this phase of the subject here in the hope that we may avoid any present misconception of the scope and tenour of the constructive portion of our philosophy. Accepting as we do the principle of evolution, and, generally, the teachings of science (not of dogmatic assumption), we join issue as to the limits of scientific knowledge. With ultimates, whether at beginning or ending, we hold that science has no touch. The attempt to prolong physics into metaphysics is an error possible only through the confusion of language, and the unification of physics with ontological speculation at the beginning, and with mental manifestations at the end, is simply a contradiction in terms.

The whole scope and teaching of the Materialistic school has, perhaps, never been so tersely or clearly summed up as by Dr. Hardwicke.\* It is so short and to the point that, instead of piling up endless authorities, it may be well here to quote it *in extenso*, as setting forth with unmistakeable clearness and precision the mechanical or evolutionary theory of the universe, represented by the one word Monism :—

\* A lecture delivered at the Albert Hall, Sheffield, December 8th, 1884, by H. J. Hardwicke, M.D., and published in the *Secular Review*, March 21st, 1885.

“ We learn from science that our solar system once existed in a condition of highly-attenuated nebulous vapour, and that in the course of millions of years this huge chaotic mass of matter, with its sum of force or energy, subject alike to the laws of gravitation and transformation, gradually condensed, and became moulded into cosmic order, forming in process of time a number of rotating spherical nebular masses, in a state of intense heat, owing to the shock of their recently-united atoms. These spheres gradually cooled by radiation, consequently contracting and becoming possessed of a more rapid rotary movement, throwing off from their equatorial regions large rings of vapour, which in their turn also condensed, and, under the influence of the same two laws, formed separate spheres for themselves. Thus gradually came into existence our suns, planets, and moons.

“ In the course of time, as our earth cooled down, large volumes of water were precipitated on the surface, causing an enormous wear and tear of the now solid rock of the earth's crust, which eventually gave rise to depositions of various kinds of earth grits, in layers, one above the other ; which strata have been divided by geologists into periods, according to various peculiarities observed in the course of their deposition. In the earliest of these periods, owing to the gradual change which took place in the relative proportions of the atmospheric gases, and to the great decrease in temperature, a peculiar combination of the molecular atoms of the earth's substance took place, which resulted in the formation of an albuminous substance called protoplasm, possessing the power of absorption, assimilation, and reproduction by fission, or, in other words, developing the property called life. Under the influence of the laws of heredity and selection this primordial germ of life gradually developed into

higher and still higher organic forms of existence, from Amœba to Gastrœda, or molluscs with mouths ; next to Vermes, or worm life ; then to Vertebrata, or back-boned animals ; through fishes ; amphibians, living both in and out of water ; reptiles, from which eventually evolved birds ; and marsupials ; up to mammals, such as whales, quadrupeds, apes, and men."

This is a fair all-round statement of the " Evolution " doctrine, and it may be accepted as an authoritative statement from the Atomistic point of view. Whatever variation of details may hereafter be deemed advisable to coincide with the continued march of science, no alteration of its drift and tenour will result therefrom. The framework is defined, the general principles are clearly laid down, and with general principles we are alone concerned.

It may be well, however, here to note that neither Herbert Spencer nor Dr. Hardwicke, notwithstanding their whole-hearted devotion to science, is a Materialist. Mr. Spencer is *the* Agnostic of philosophy, and Dr. Hardwicke, following in his footsteps, has disavowed, in many of his articles in the *Secular Review*, both Atheism and Materialism.

Disavowals such as these may appear strange in the eyes of many after a perusal of the quotations herewith furnished ; but we trust, before this section closes, to make clear the necessity which these have recognised, of confining the sphere of physics within the domain of sense.

Lastly, " Professor Tyndall, who is one of the most strenuous advocates of the atomo-mechanical theory, and is a persistent stickler for its dominant features,"\* in an address delivered before the British Association at Liver-

\* Stallo, " Concepts of Modern Physics," p. 154.

pool, and republished by him,\* says : " Many chemists of the present day refuse to speak of atoms and molecules as real things. Their caution leads them to stop short of the clear, sharp, mechanically-intelligible theory enunciated by Dalton, or any form of that theory, and to make the doctrine of multiple proportions their intellectual bourne. I respect their caution, though I think it is here misplaced." In these words he commits himself irrevocably and unmistakeably to the mechanical, Monistic, or Materialistic view of the universe ; and, in order that no mistake should be made concerning his principles, shortly after enunciating the above, at his celebrated address to the meeting of the British Association at Belfast, he spoke in, if possible, still stronger terms, as follows : " Abandoning all disguise, the confession that I feel bound to make before you is, that I prolong the vision backward across the boundary of the experimental evidence, and discern in that Matter which we have hitherto covered with opprobrium the promise and potency of every form and quality of life."†

Quotations of this description from the writings of innumerable scientific and philosophic professors might be multiplied almost without end ; but we think that enough has now been said to verify the statement which we have made, and to show that the outline of the Materialist body of doctrine and teaching has been set forth by us with substantial, if not literal, accuracy of expression. It is the scheme which displays the evolution of mankind from homogeneous atoms through heterogeneous chaos, on through inorganic and organic nature, up to the crowning point of a rational and moral being ; or

\* "Fragments of Science," American edition, p. 358.

† Inaugural address delivered before the meeting of the British Association at Belfast, August, 1884.

should we rather say up to an irrational, and consequently *unmoral*, irresponsible being?

The postulates and expression of Materialism having been now duly set forth and verified, we have still to ascertain what are the statements and trains of reasoning whereby the postulate of the atomic basis, combined with its derivative principles of evolution and development, are turned to account, in order to demonstrate the cumulative assertion that the highest forms of thought are capable of arising from lower forms of intelligence, and finally from unintelligent substratum, and how the domains of both ontology and reason may be unified within the scope of mathematical and mechanical formula.

Cobanis, born 1757 A.D., declared that "the brain secretes thought as the liver secretes bile;"\* and, though it has been attempted over and over again to explain away this statement, modern scientists affirming that it is unscientific, and to be taken only in a metaphorical sense, still it is worthy of note that this identical idea, couched in identical language, has been enforced and insisted upon in our own day by Carl Vogt in his essay on "The Souls of Animals." Moreover, notwithstanding that he afterwards toned down this assertion to the statement that thought should be generally accepted as the function of the brain, philosophically there is little to choose between the two assertions; for, if thought is the function of the brain, then the detail whether the action of the brain is similar to that of the liver, or whether the process is of a far more refined or subtle character, matters not at all.

Haeckel writes as follows:—"All knowledge springs from sensuous perceptions. In opposition to this state-

\* "Rapports du Physique et du Moral de l'Homme," by Cabanis, A.D. 1798-1799.



ment, the innate or *à priori* knowledge of man may be brought up; but we can see that the so-called *à priori* knowledge can, by Darwin's theory, be proved to have been acquired *à posteriori*, being based on experiences as its first cause. Knowledge, which is based originally upon purely empirical abstractions, and which is therefore a purely sensuous experience, but has been transmitted from generation to generation by inheritance, appears in later generations as if it were independent, innate, and *à priori*.\*

Mr. Albert Simmons, in his discussion on the uniformity of law,† sums up:—"Social forces are resolvable into mental forces, mental forces into vital forces, vital forces into physical forces, and physical forces into solar radiation" (that is, atomic motion).

These statements are the legitimate conclusions of the original positions which we have already shown are generally adopted; and, although we might endlessly multiply authorities, they may be taken as typical of the point now under consideration. The logical crown and completion however, of such utterances is but seldom set forth—in fact, it is pretty generally avoided, as being too unpalatable, or, possibly, even too obviously contradictory of our common sense, to be frequently paraded. The conclusion, nevertheless, undoubtedly is "Conscious Automatism." It is a necessary corollary, from which there is no escape, and follows, without any break, from the asserted reduction of thought to mechanical equivalents.

Hushed up and concealed as this conclusion generally is, there are some who have the courage of their convictions, and by no means shirk the issue. Haeckel, in language which admits of no second interpretation,

\* "History of Creation," by Haeckel, vol. i., p. 31.

† "Agnostic First Principles," by A. Simmons (Ignotus), p. 62.

records his decision : "The activity of the will is, like every other activity of the animal soul, dependent upon material processes in the central nervous system, upon peculiar motions which emanate from the albuminous matter of the ganglion cells, and the nervous fibres connected with them. The will, as well as the other mental activities in higher animals, in this respect, is different from that of men only in quantity, not in quality. The will of the animal, as well as that of man, is never free. The widely-spread dogma of the freedom of the will is, from a scientific point of view, altogether untenable. Every physiologist who scientifically investigates the activity of the will of man and animals must, of necessity, arrive at the conviction that, *in reality, the will is never free.*"\*

So also Büchner :—"It may, without exaggeration, be stated that, at present, most physicians and practical psychologists incline to the view, in relation to free will, that human actions are, in the last instance, dependent upon a fixed necessity."†

"What is called free will," says Cotta, "is nothing but the result of the strongest motives."

These statements are but re-affirmations of the earlier sensationalists, for Hartley, the disciple and developer of the Lockian school, A.D. 1750, was a firm and uncompromising necessarian ;‡ and by his disciple, Priestley, the doctrine of philosophical necessity was still more fully urged and more systematically enforced.

Among us, Professor Clifford has almost alone had the logical courage of his opinions, and shortly before his untimely and lamented death he accepted conscious automatism to the full.§

\* "History of Creation," by Haeckel, vol. i., p. 237.

† "Force and Matter," by Büchner, p. 267.

‡ See his chapter on "The Mechanism of the Human Mind."

§ See "Body and Mind," by W. K. Clifford, *Fortnightly Review*, December, 1874.

Conscious automatism, therefore, being evidently and admittedly the outcome and crown of Materialism, we have now before us a completed picture of the whole of the hypothesis—premises, deductions, and conclusions; and we are, at last, in a position to analyse the system from the beginning to the ending, and to ascertain what validity can be attached to either its axioms, syllogisms, or consequent demonstrations.

If the postulates of any system of philosophy prove to be sound, and if the deductions are in accord with the principles and practices of reason; and, moreover, if its conclusions stand the test of all available means of verification, then, indeed, should such philosophy be accepted, not merely as a theory, but as a practice, as a rule and guide for life and for the sociology regulative thereof.

How far Materialism responds to the tests we must now endeavour to ascertain. On examination, it will be found that there is a two-fold fallacy underlying:—

*Firstly.*—It is continually forgotten or overlooked that physics, mechanics, experiments, and so forth, deal only with phenomena; and, owing to the fact that the distinction between noumena and phenomena is of kind, and not of degree, the theories and conclusions of the one are incapable of prolongation into the domain of the other. This is the most obvious and certain of the truths deducible from an examination of our knowledge and its limits; yet the fallacy of pretending that the methods of the one can be logically adapted to the requirements of the other underlies every system of Materialistic ontology.

*Secondly.*—In the domain even of the phenomenal—the legitimate sphere of experiment, deduction, and verification—experiments and observations are exceedingly limited by the shortcomings of our faculties; and the

theories and deductions arising from these observations are, consequently, uncertain and provisional at best. Still, it is constantly found that these provisional and uncertain deductions are exalted to a position not merely of equality with, but of superiority to, the conclusions of reason, based upon other premises indeed, but of a far higher certainty than the somewhat vague generalities of Matter, Force, and Law.

The chief reason of the prevalence of both these fallacies—which, in fact, have a common bond of union—is the confusion continually arising from the indefinite use of the word “Matter.” It is used by almost all scientific, and also indeed philosophic, writers, indefinitely, and without any real recognition of its manifold meaning; consequently, their whole trains of reasoning are, pretty generally, vitiated *ab initio*.

The word “Matter” *should* be strictly confined to philosopher’s Matter—that unknown, and certainly unknowable, substratum (*per se*) which we must recognise as underlying not only corporeal or bodily manifestations, which may be defined as all that class of phenomena associated in our minds with extension, but also the other class, which does not participate in the quality of extension—that hypothetical substratum which, in its widest generalisation, may be postulated as containing, without in any way defining, the potentialities of our universe; that philosopher’s Matter which can be neither tasted, touched, nor seen, and the existence of which, in consequence, Berkeley so stoutly denied.\* This Matter,

\* “That the things I see with my eyes and touch with my hands do exist, do really exist, I make not the least question. The only thing whose existence I deny is that which philosophers call Matter, or corporeal substance.....That what I see, hear, and feel, doth exist—*i.e.*, is perceived by me—I no more doubt than I do of my own being; but I do not see how the testimony of sense can be alleged as proof of anything which is not perceived by sense” (“Principles of Human Knowledge,” Berkeley, secs. 35-37, 40).

strictly and ultimately noumenal as it should be regarded, is, however, continually alternated and confused with what is *vulgarly* termed Matter, but which is in reality *Body*.

Body, which includes all material phenomena, can be weighed, tasted, and handled; and, learning by experience that in Body force and extension are made manifest in unity, and habitually terming this Body Matter also, the conclusion seems demonstrated that extension, impenetrability, ponderosity, and so forth, are necessarily the properties of that noumenal substratum which, by a process of confusion, is combined or included under the name Matter—amalgamated, in fact, in terminology, and consequently in ideology, with Body, instead of being, most carefully, kept disparate.

Nay, further. As Matter, in its noumenal sense, is the substratum of all phenomena, and as Mind is unquestionably a phenomenon, therefore philosopher's Matter is necessarily the basis of Mind; but, Matter being used habitually as the equivalent of Body also, the conclusion seems plain that Body is the basis of Mind. The syllogism is brought about by the undefined use of the middle term, Matter, and the fallacy is less likely to attract attention because, as far as our experience goes, Body is the invariable accompaniment of Mind; consequently, the corollary of the syllogism, "No Body, no Mind," has apparently stood the test of daily verification, and can, therefore, be accepted as axiomatic, requiring no further investigation.

A second source, also, of much confusion, and which it will be necessary for us to guard against, is the improper use of the term Body; it, but too frequently, being understood as connoting such organisation alone as partakes of the characteristics of vitality. Body certainly connotes organisation or extension, but should



not be arbitrarily limited merely to the most advanced manifestations of organic process.

In order, then, to fix our ideas on this all-important subject, so that we may, both now and hereafter, be enabled to think with the necessary clearness and precision, a form of symbolisation may be here set forth—a form which I have constructed from the remarkable suggestions propounded by that most acute and original thinker, Fra : Ollæ, in certain contributions to the *Secular Review* ;\* suggestions from which I have developed and adapted the following synopsis, so as to present it in a form especially arranged to synchronise with the scope of this work.

Philosopher's Matter, we have shown, may be defined as the unknown equation underlying all phenomena. For the purposes of our symbolisation we may consider it as consisting of two factors :—

1. The totality of incoherent passivity occupying ideal Space to infinity.
2. The totality of incoherent activity occupying (or acting in) ideal time to infinity.

These integrals constitute Matter—philosopher's Matter, or noumenon. The ferment of Matter, or the union and interaction of these integrals, must be conceived as resulting in the complete energising of the complete passivity ; and the totality of the interaction results in "Substance," which we may consider as actualised passivity into actualised activity. Substance, developing by the interaction of its integers, unfolds into perceivable Body, or organisation ; that which enters into our ken and exhibits qualities of extension, or force made manifest. This process may be tabulated as follows :—

\* See *Secular Review*, April 18th, 1885 ; and subsequently, "A Philosophical Trilogy," by Fra : Ollæ.

# I. PRIMA MATERIES (PHILOSOPHER'S MATTER) ;

$\left\{ \begin{array}{l} \text{MASS. The incoherent potentiality of all Passivity} \\ \text{or,} \\ \text{The Ultimate Noumenon underlying, possessing the potentialities of} \\ \text{MOTION. The incoherent potentiality of all Activity} \end{array} \right\}$ 
 $\left\{ \begin{array}{l} \text{Space} \\ \text{and} \\ \text{Time} \end{array} \right\}$   
 Results in

## II. SUBSTANCE (COMMONLY CONFOUNDED WITH THE FOREGOING) ;

$\left\{ \begin{array}{l} \text{The Becoming of Body—the Object} \\ \text{The Becoming of Mind—the Subject} \end{array} \right\}$ 
 $\left\{ \begin{array}{l} \text{Actualised Passivity (Inertia)} \\ \text{or,} \\ \text{Actualised Activity (Energy)} \end{array} \right\}$ 
 $\left\{ \begin{array}{l} \text{The Mediate Noumenon, involving the} \\ \text{actualisation of} \\ \text{Space} \\ \text{and} \\ \text{Time} \end{array} \right\}$

III. IMMEDIATE NOUMENA,  $\left\{ \begin{array}{l} \text{The} \\ \text{Utilisation} \\ \text{of} \\ \text{Space} \\ \text{Time} \end{array} \right\}$  Develops into  $\left\{ \begin{array}{l} \text{III. IMMEDIATE NOUMENA,} \\ \text{Which are capable of realisation as Extension ;} \\ \text{or,} \\ \text{BODY,} \\ \text{known as the Material Presences of the Universe ;} \\ \text{(Commonly confounded with} \\ \text{preceding and following)} \end{array} \right\}$ 
 $\left\{ \begin{array}{l} \text{The} \\ \text{Utilisation} \\ \text{of} \\ \text{Space} \\ \text{Time} \end{array} \right\}$ 
 $\left\{ \begin{array}{l} \text{Which are not capable of realisation as Extension ;} \\ \text{or,} \\ \text{The Mind Forces of the Universe, in which must} \\ \text{be included Gravitation, Polarity, Electricity, Mag-} \\ \text{netism, Chemical Affinity, etc. ;} \end{array} \right\}$

$\left\{ \begin{array}{l} \text{The Manifestation of Inertia,} \\ \text{or,} \\ \text{The Manifestation of Energy,} \\ \text{as} \\ \text{Organised and Localised Passivity ;} \end{array} \right\}$ 
 $\left\{ \begin{array}{l} \text{The Manifestation of Energy,} \\ \text{as} \\ \text{Organised and Localised Activity ;} \end{array} \right\}$

Correlate into

## IV. PHENOMENA (VULGAR MATTER) ;

$\left\{ \begin{array}{l} \text{Bodily} \\ \text{and} \\ \text{Mental} \end{array} \right\}$ 
 $\left\{ \begin{array}{l} \text{The Realisation of Extension and Force, operating in} \\ \text{or,} \\ \text{Tri-rectilinear Space} \\ \text{Uni-rectilinear Time} \end{array} \right\}$

The First, or Prima Materies, may be postulated as The Indication of the Inconceivable ; or, The Unknowable.

The Second, or Substance, may be indicated as The Conceivable, but Unrecognisable ; or, The Atomic Condition.

The Third, or  $\left\{ \begin{array}{l} \text{Body} \\ \text{Mind} \end{array} \right\}$  may be conceived as The Recognisable, though Intangible ; or, The domain of Molecularity and Mentation (Psychics).

The Fourth, or Phenomena, may be recognised as The Realisable and Tangible ; or, The domain of (vulgar) Matter and Motion, or (vulgar) Matter, Force, and Law (Physics).

Nowhere, however, between these four may a hard-and-fast line be drawn, the whole being but a process of Becoming.

If we bear this symbolisation carefully in mind, although it must never be regarded as other than a system of symbols, much, we believe, that is uncertain and confused may be made clear; and we are now in a position to turn our attention to the second class of phenomenon to which we have called attention. This class is distinguished as comprising all those manifestations which, although associated for us invariably with that which is extended, are, nevertheless, recognisable as being *per se* without extension.

Extension, we have seen, is the essence of—in fact, is—Body; consequently, these forces are disembodied in themselves, but may be regarded side by side with Body as being each of them but an allotropic presentation of the underlying Substance, which is the parent of both. They are thus brought into the closest relationship, and all of them are completely unifiable in the ultimate noumenal conception, Matter, or “Prima Materies.” To this class belong not only Mind, but many other forces of the universe, as has been already indicated. It must, however, be remembered that, although these forces of non-extension have thus been unified under one classification, this grouping is by no means equivalent to postulating their *identity*; for, so far from being identical, their manifestations are already sufficiently differentiated to admit of their further classification into various orders.

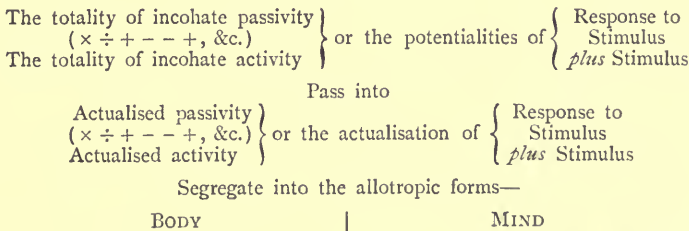
It is, however, as we can now plainly see, a legitimate and a natural course to group the distinct manifestations under the two headings of mental and bodily forces; and it is, moreover, full of suggestions and pregnant with future possibilities. True it is that the late G. H. Lewes and his successors have laid it down, with almost wearisome iteration, that ontological or metaphysical speculation always has been, and must always continue, barren of practical result, and that no discovery, utilisable in

the domain of physics, could arise therefrom ; and this dogma, it may be admitted, has been but too fully justified by the past. Barren methods have undoubtedly prevailed, and speculation, barren of available fruit, has been the result. Ontological speculation, however, has of recent years been approached in a spirit and method entirely different from all that has gone before, and converging lines of physical and metaphysical investigation have been discovered—lines which undoubtedly are tending towards some meeting-place, so that a real point of union and contact, though perhaps not yet attained, is no longer to be regarded as unattainable, or as being only the vanishing point, or unreal union, of two mutually-destructive processes of thought, where they pass forever out of the mental horizon. The demonstration and unification of the Mind forces of the universe, as apart from, though correlated with, the forces of Body, is a thesis towards which physical investigation is surely tending ; and this system of generalisation is, at least, also indicated by the ontological investigations of the present day—investigations the conclusions of which have been reached by what Kant called the faculties of the higher or purer reason alone ; nevertheless, the conclusions so reached are now capable of being supplemented by, and confronted with, the special methods of physical investigation.

To resume. Phenomena, we have now ascertained, are of a dual character, unified by the correlation of the two factors of mental and bodily force ; and, although for us the resultant coalescence is inseparable at present, nevertheless, as one class or the other predominate, so we already discriminate between phenomena as either “bodily” or “mental.” True, the forces of the Mind (the unextended) can be recognised by us only through Body (the extended) ; but equally true it is that the

properties and manifestations of Body (the extended) can be recognised only through Mind (the unextended). These are the two co-factors of our knowledge, neither of which is before or after the other, but are co-existent, co-extensive, co-related, co-equal. Neither is the parent or child of the other.

From the beginning of our chain, we have so far found that stimulus *plus* response to stimulus, or continual action and re-action, rules. Action and re-action is the process, enabling development to arise; but self-fertilisation is an impossibility. Self-fertilisation is in reality a contradiction in terms—a thesis which will be fully examined under the more convenient heading of Idealism; but, meanwhile, the point is gained that stimulus *plus* response to stimulus is the fundamental law of all Being—stimulus and response to stimulus, which are, indeed, themselves nothing but more or less convertible terms; for passivity undoubtedly possesses powers of stimulation, and is equally a mode of force. Two-sided, then, or many-sided, or, in other words, complete potentialities, are formed, and interaction to infinity is possible, and *n* manifestations consequently arise.



These, re-uniting, mutually interact again by response to stimulus *plus* stimulus, or equally and more euphemistically by stimulus *plus* response to stimulus—multiplying powers, multiplying effects.

May we not consider that the two-fold fallacy of Materialism has now been demonstrated—that double



fallacy which befalls in its endeavour, by the extension of its methods (observation and experiment), to pass from phenomena to the immediate noumena of either kind, both the underlying noumena of Mind and the underlying noumena of Body? The axiom, however, of Materialism—"No Body, no Mind"—is so universally misunderstood and accepted as an equivalent to "Mind is the outcome of Body"—the two being regarded as interchangeable expressions—that it is most necessary to scrutinise carefully the opinions which have been enunciated dealing with this postulate. We shall find that this word Matter is continually used, as we have already pointed out, in a treble or even four-fold sense; and, moreover, owing to the poverty of our language, it is, unfortunately, the only word we have for the expression of bodily states when taken generically, because Body has acquired an artificial and improper signification of vital organisation alone. Consequently, the proper term, "Bodily states," has become misleading, and the term, "Material states," is the only substitute; and Body is hence used conterminously with Matter. Matter, it thus arises, is applied indifferently to both vital and non-vital organisations—dirt having been defined as "Matter out of place;" and "pus," or its allied forms, is vulgarly called Matter also. Nor is this all; for there is also the general usage whereby Matter is posited, inclusively, as antithetical to Spirit or Mind in all their various interpretations. It will be seen, therefore, that between the several uses of the term Matter confusion is ten-fold confounded.

Unfortunately, we cannot prevent this state of affairs; we can but point it out. But, so far as the author himself is concerned, in all expositions of his own the word "Matter," used alone, signifies "*Prima Materies*" only; when other Matter, whether vital or non-vital, is implied,

the word "vulgar," in brackets, will always be appended or prefixed; and the sense of the context must be taken as a sufficient indication of which kind of vulgar Matter is implied. But the word Body, or bodily, will be used in place of Matter, other than "*Prima Materies*," or philosopher's Matter, wherever possible; the word Body, or bodily, being taken to include all organisation or aggregation of every kind—or, in other words, all extended phenomena. When, however, the word is expressly intended to be confined to the organisations possessing vitality, the word "vital" will be inserted in brackets. So far, therefore, as the author is concerned, he hopes that his meaning may be made clear. So far as quotations from other writers are concerned, "what they have written they have written;" but their writings may now be more readily investigated.

As a preliminary, however, after so great a digression, the fundamental assumptions of Materialism, or Monism, will bear re-stating. They are—firstly, the universe has evolved from the groupings and arrangements of homogeneous, uniform, and ultimate atoms of Matter; and, secondly, this Matter is endowed with, or possessed of, Force. In other words, Force is a function or property of Matter. It will be more convenient to consider the second of these theses first.

What is the meaning of this assumption, and what are the grounds for making it? The meaning of the assumption is an attempt to account for phenomena. How? Simply by assumption: the grounds for the attempt are *nil*. It is a clean *petitio principii*. Grant this assertion—for it is nothing else than an assertion—and you grant the whole of the Materialistic theory. Materialists scoff much at Theologians for assuming that Matter was endowed with Force by some super-material or supernatural being, and they laugh still more at the

Schoolmen who supposed Matter and Force to be separate entities ; but wherein lies the difference between the reasonableness of their suppositions and the other two ? There is no difference ; all three are conceptions of the imagination, without the least particle of evidence. Put Force into your conception of Matter, and Force can certainly be logically evolved at the end of your chain of reasoning, and can be presented under all the phenomena of unconscious life ; though even then it may not result as consciousness. For a moment, let us set aside the higher and most recondite manifestations of life, and, turning to the lower orders of vitality, let us admit that, given Matter as being primordially possessed of Force, it is conceivable that such powers arose by a process of development. It will at once be seen that the only ground for demanding this premise is professedly that, if only so much be acceded—if it is allowable to start from this conception of Matter and Force as unity—then the universe may be presented as deducible without any other interference. This, however, is only an appeal, *ad misericordiam*, and is of no avail as an argument, being merely a *petitio principii* of the simplest order, and can receive no intellectual assent from those whose search is after demonstrations, and who cannot accept as a substitute question-begging hypotheses. In fact, not only is the nature of either Matter or Force so inconceivable, but, also, is the postulate of ultimate tangible atoms possessing Force so unreasonable, that the request to be allowed to evade all difficulties by merging of the inconceivables into one concept, without an iota of proof, cannot for a moment be allowed to stand. Not only is there no shadow of proof, but, as a plausible hypothesis even, it will hold no water.

Having discovered, therefore, that the second postulate, on which so much is built, is but a *petitio principii*,

let us now turn to thesis Number One, concerning the ultimate constitution of Matter—namely, that the basis of the universe is homogeneous atoms. The difficulties in the way of accepting this presumption are not only insuperable, but are such, fortunately, as may be readily displayed in a concrete form.

It is true that the postulates of science regarding this axiom have been given forth with great pomp and circumstance, and have been accepted by the greater part of living scientists, although there have been some who have had the courage to admit the error of such teachings. But it may be well, so that no doubt should exist that such precepts have been enunciated, to quote some of the accepted authorities.

“The elementary units of mass, being simple, are in all respects equal ”\*—(*i.e.*, homogeneous).

Professor Tait writes :—“ Now, as there is absolutely nothing known to science which can preclude us from carrying this process (ratiocination) farther, so we may go back from the smallest visible thing to various successive orders of smallness. And the first of these that we thus reach has already been pointed to by science as at least a rough approximation to that coarse-grainedness which we know to exist even in the most homogeneous substances, such as glass and water. For several trains of reasoning, entirely independent of one another, but based upon experimental facts, enable us to say with certainty that all Matter becomes heterogeneous, in some, as yet, quite unknown way, when we consider portions of it whose dimensions are somewhere about 1-500,000,000 of an inch ! We have, as yet, absolutely no information beyond this, save that, if there be ultimate atoms, they are at least considerably more

\* Stallo, “ Concepts of Modern Physics.”

minute still.”\* That is, that ultimate atoms pass from a state of homogeneity, or absolute equivalency, to one of heterogeneity, or of absolute unequivalency, at about the dimension named, and that with these heterogeneous atoms the actuality of Body, or organisation, with all its potentialities of future development, arises.

Now, the difficulty that presents itself is as follows :— In the first place, this immediate basis of Body must be infinitely divisible or not. It must be admitted that, in thought, no limit can be placed to this process of divisibility, for, however minute might be the size of the particle, it could clearly be again divided into inside and outside—nay, more, for, if it could even be conceived of as being all surface (which is, of course, impossible), then it must further be reduced to one surface only, for an upper side and an under side render further division a capability ; so that, as far as reason goes, the assumption of an ultimate indivisible atom is an absurdity. But science says : “ No doubt, in thought, the atom is divisible for ever ; but this is only in thought.” As a fact, there is an ultimate atom, homogeneous, impenetrable, indestructible, and indivisible ; and this reality is the starting-point upon which we must insist in order to provide a foundation for our edifice. But here comes the difficulty. This ultimate homogeneous atom, which Nature herself cannot divide in practice, although in thought we cannot help conceiving of the possibility of its continued division—this ultimate atom cannot be homogeneous, for, as it is, for us, in three dimensional space, it must possess at least six surfaces—surfaces, that is, as regarded from different points of view. Now, in whichever form these surfaces may be conceived, whether

\* P. G. Tait, “ Notes of the Introductory Lecture of the Ordinary Course of Natural Philosophy in Edinburgh University,” October 31st, 1877.



sharply defined, as those of a cube, or merging one into the other, as those of a sphere, it is still impossible for the atom to be *homogeneous*; for not only is it clear that a surface must be a differentiation from a centre, and must possess different qualifications, and be subject to a different category of influences, but that each surface is a differentiation from the rest; consequently, homogeneity, or absolute equivalence of this uni-part ultimate atom, is an absurdity; and wherever the process of subdivision may be arrested heterogeneity must prevail, homogeneity in anything possessing extension being a contradiction in terms.

It has, however, been urged, as a last resort, in order to meet this difficulty, that these ultimate atoms must be conceived as points only, without extension—that is, without Body. It will be readily seen that such a suggestion amounts to nothing but a contradiction in terms also, and is one that cannot be allowed to pass.

An original atom, indivisible in practice, which may be accepted as a starting point of development, provided always that the ontological process of “its Becoming” be not implicated in the idea, is, at all events, conceivable, although it may never be realisable. An unextended atom or point, as the basis of that which is extension, at once passes into the domain of the inconceivable. The postulate of Being is co-extensive, *for us*, with the postulate of extension, because, although we are able to recognise the forces of non-extension, at the same time they never can be realised except through the forces of extension. We have no experience, in fact, of that which is itself non-extended, except as associated with extension. Consequently, the postulate of Being or Entity is, essentially, the postulate of extension, and, as a sequitur, the postulate of non-extension is equivalent to the postulate of Non-being. Non-extension,

therefore, being the equivalent of 0, or the symbol of Non-being, it is clear that no multiplication of non-extended substances can produce that which is extended, any more than that nought, multiplied a million times by nought, can be converted into one. The only conceivable way, therefore, by which nothing can become something is through the means of special creation, which is a conclusion hardly likely to be acceptable to advanced Materialism, for this conception they hold to be a demonstrated absurdity. Even the term creation, however, of something out of nothing, on examination, resolves itself into a self-contradictory proposition. Creation of something out of nothing is, in reality, a misstatement for the creation of something, not out of nothing, but out of something—out of the Creator itself; but even that, as will be seen when we consider Idealism, is, in last analysis, only a presumption. Creation or building up of something out of some other things is a reasonable proposition, so long as equivalence is preserved; but nothing becoming something, or non-extension becoming extension—the equivalence of statement being destroyed, are contradictions in terms, or nonsense. There is, then, no solution to the dilemma from a Materialistic point of view. Give extension to the atom, and heterogeneity must prevail. Heterogeneity and extension are equivalences of statement or definition; but homogeneity and extension are inconvertible terms or statements of non-valence. Deprive the atom of extension, and you thereupon necessarily void it of all potentiality of extension.

It is a legitimate postulate to start, if you please, with a theoretically indestructible atom on which to build; but it must never be forgotten that this atom is itself organisation, or Body; and as science, in its grandest generalisation, postulates that Matter is indestructible,

we must ask, What is the sense in which the word "Matter" is to be understood in this connection? If as that which has extension, or Body, then the development of this Body from, or its resolution into, points, or non-extension, or Non-body, would be the equivalent of either the creation or destruction of Body (Science Matter). If, on the other hand, they mean Philosopher's Matter, or that of which extension may not be predicated, then, surely, self-stultification arises; for this indestructible Matter is now found to be void of content, and consequently is destroyed *ab initio*, and all concrete realisation, of which so great parade has been made, of a process of idiosyncratic Becoming from such a starting point is talk of the idlest nature. Represent this, however, by our system of symbolisation, and it will at once appear that Matter is the region of the inconceivable, and the process of Becoming is but the passage from, as it were, one plane to another; and it is in Substance, or the region of the conceivable, though unrealisable, that atomicity prevails, and that this atomicity—or what they are pleased to call Matter, which is in reality but the becoming of Body—is no more the Ultimate, or Absolute, or "God," than is the "*Pus Puriens*" of the dissecting room.

To proceed. Although it is now clear that the ultimate homogeneous atom is inadmissible so long as logic or reason rules—supposing for a moment that we waive this difficulty, and accept homogeneous atoms as the ultimate physical basis, another difficulty, no less insuperable, arises. For, given the series of ultimate homogeneous atoms, by what process can heterogeneity possibly arise? Let us present to ourselves these atoms, all endowed with an equal amount of force in their masses of homogeneous and equivalent extension? What then? The sum of the masses and forces balance, and

everlasting equilibrium is the result. In order that heterogeneity may prevail, this balance must be upset. Divergent groupings or arrangements can by no possibility arise without the assistance of some disturbing cause, some impress of force from outside and beyond the ultimate and equal atoms, some accession or motive of force or direction (which is but a mode of force) sufficient to disturb this equilibrium.

But, if Force is postulated as only an inherent property of Matter, and the whole of Matter has originally (as it must have) been also postulated, whence this Force? There is no more Matter, consequently there can be no more Force. Therefore, there can be no disturbance of original equilibrium except from some super-material source. So that, even in the last analysis, even if you grant all the postulates, if you pass over all the question-begging assertions—even then, when the Materialist has had his way to his heart's content, then, in the last resort, he is brought face to face with a “power that is inscrutable.”

From whichever point of view we may regard it, the atomic theory hopelessly collapses; and its professors, in their hearts, are aware of its helpless quandary. But, unfortunately, it seems to them that science must complement itself, and fill the measure, world without end, in every direction. They cannot be satisfied that science should occupy itself with the things of sense, in which task its scope and energies can be fully employed. The things that are phenomenal, the things that are relative—this is the domain and scope of experiment and verification; but they seem to consider that they must, of necessity, display this phenomenal and relative pursuit as capable of dealing with the things that are Noumenal, the things that are Absolute, the things that are beyond sense. Moreover, they consider that this assumption

of ultimate atoms is such a necessary starting-point and complement of the doctrine of development that they teach it, *knowing it to be false*. They evade any examination of its difficulties with the same jealous care that the monks of old displayed towards the thigh-bone of John the Baptist in Europe, or their congeners in Asia observed towards the eye-tooth of Buddha; watchful ever lest some too curious hand might bring them to the light of day, and discover that one was the jawbone of an ass and the other a tusk of the wild boar. Their fears on this score are, in reality, without foundation. They of little faith in the things of revelation are of lesser faith still in their own domain. They revile the word of the prophet as a falsehood; but they care not at all that truth should prevail. They seem to apprehend that science must fade away and die unless they also were present at the Creation.

The domain of science is worthy and true. Accept we may her teachings as partially-unified knowledge,\* but for completely-unified knowledge we must turn to something which has a higher law. The immaterial mind of man, which, though it may rest well satisfied with physics so far as regards its bodily surroundings, ever yearns and goes forth to commune with that higher mind by and through whom all Mind and Body is; and it may yet, as in a vision, see the outer courts of that holy of holies which enfolds within the inner shrine something more than the possibilities of physics; something beyond the vibrations of atoms and the compounding of molecules.

Fortunately, there are some leaders of scientific thought who have appreciated the unreliability of Monistic dogmatism, and who have recognised the true

\* Herbert Spencer, "First Principles."



scope of the inductions of science ; and this is what they say. The truth is, as Sir William Thomson has observed : "The assumption of atoms can explain no property which has not previously been attributed to the atoms themselves ;" and, as Herbert Spencer writes, the "power that the universe manifests is utterly inscrutable." As a fact, however, the atomic theory is not in reality a necessary basis for even the legitimate portion of scientific inquiry. It is beginning to be admitted that, apart from its theoretic absurdities and impossibilities, the practical and actual experiential difficulties are such that the time is at hand when it must be abandoned, as being insufficient and misleading—nay, actually false as regarding even phenomenal manifestations.

The matter is fairly summed up by Stallo as follows : "The question to what extent the atomic theory is still indispensable to the chemist as a 'working hypothesis' is, at this moment, under vigorous discussion among men of the highest scientific authority, many of whom do not hesitate to endorse the declaration of Cournot (made many years ago), that 'the belief in atoms is rather a hindrance than a help'\*—not only because, as Cournot complains, it interposes an impassable chasm between the phenomena of the inorganic and those of the organic world, but because, even as a representation of the phases and results of the most ordinary chemical processes, it is both inadequate and misleading. The modifications to which it has lately been found necessary to subject it in order to meet the exigencies of the present state of chemical science—modifications exemplified in the doc-

\* "En somme, pour, l'harmonie générale du système de nos connaissances, par conséquent (autant que nos pouvons enjuger) pour la plus juste perception de l'harmonie qui certainement existe dans l'ensemble des choses, la foi dans les atomes est plutôt un embarras qu'un secours" (Cournot, "Traité de l'Enchaînement des Idées Fondamentales dans les Sciences et dans l'Histoire," i., 264, *seq.*).

trines of constant and varying atomicities or valences of molecular or atomic enchainments, etc., with the attendant theories (propounded by Kékulé and others) of molecular impact—attest the difficulties encountered in the attempt to bring the atomic hypothesis into conformity with the theoretical requirements of the hour. And in proportion as the attention of the modern chemist is directed to the transference and transformation of energy involved in every instance of chemical ‘composition’ and ‘decomposition,’ no less than in every case of allotropic change, its ineptitude as a figurative adumbration of the real nature of chemical processes becomes more and more apparent.”\*

And, as another illustration of this disfavour with which the atomic hypothesis has been regarded by distinguished chemists, let me conclude by quoting a passage from an essay by the late Sir Benjamin C. Brodie, Professor of Chemistry at Oxford: “I cannot but say that I think that the atomic doctrine has proved itself inadequate to deal with the complicated system of chemical fact which has been brought to light by the efforts of modern chemists. I do not think that the atomic theory has succeeded in constructing an adequate, a worthy, or *even a useful* representation of those facts.”†

So far, then, may we not consider that the fundamental developments of Monism have been shown to be unsound, whether viewed from a theoretical or a practical point of view? This being so, is it not a work of supererogation to attack the conclusions? There are many, however, who are so enamoured of these conclusions that no amount of reasoning concerning the premises will overthrow their faith; nor will they give their attention

\* “Concepts of Modern Physics,” Stallo, p. 102.

† *Chemical News*, August, 1867, p. 72.

to such far-reaching arguments. The conclusions, cry they, are perfectly unanswerable ; let us, therefore, take the premises for granted ! So be it. Let us once more accede to their demand, and investigate these conclusions as critically as we have done the premises.

Granting, then, then, at all events, at least a temporary use of the premises ; granting the ultimate homogeneous atom endowed with force ; passing, without a word, the difficulty as to how the homogeneous passed into the heterogeneous, their scheme of evolution grows apace. From cosmic gas to planet—chaos to air and water, earth grits, rocks form fast, by virtue of inherent powers. From this womb the germs of life appear—Urschleim, Protoplasm. Movement, directed by desire, arises ; then growth. By fission the parts reproduce their species. But more remains : the like, by the multiplication and hereditary reproduction of minute accidental divergences,\* produce the unlike, and fish, trees, reptiles, birds, and beasts appear ; then man—man a development of all that went before, different in degree, but not all in kind.

The Emotions, the Intellect, the Will, in last analysis, are reducible, not only to the terms, but to the realities, of molecular motion—the whole of life being but one waving line, the course and action for each given period of time being determined strictly in accordance with the parallelogram of forces, all movements being directed

\* “Minute accidental divergences”—a favourite phrase, which nevertheless is contradictory in itself ; for how can *accident* find a place among “mechanical equivalents” or “the parallelograms of forces,” which are the reductions of science ? The idea of accident in such connection is part of the looseness and inaccuracy of thought pervading the whole of the Materialistic teaching. *Accident* ; something, some force, outside and beyond, arises to upset the mechanical equivalents and influence the result ; but, while this is gravely taught in one lesson, in the next any possibility of outside interference is scoffed at. Will men never learn that the potentiality of  $2 \times 2$  is 4, and 4 only ; and that, if  $2 \times 2$  is to develop into 5, then 1 must be added to the equation *somewhere, some when, somehow* ?

along the grooves moulded by heredity and habit, the totality of environment; and whether man loves or hates, lives or dies, he is but conducted along the lines of least resistance. Attraction and repulsion, assimilation and rejection, is the unending law of physics. Atoms, entangled, mingle and commingle, stay a while in this or that conjunction, then pass on to other combinations—pastures new, in endless, aimless maze.

At the summation of the creed, however—at the point where (vulgar) Matter developes into Mind, there is a hiatus which may not be bridged over. The chasm that yawns at this end of the story is equalled in profundity and impassability only by that which we have seen is present, barring the passage at the beginning, from Noumenon to Phenomena.

Monism is nothing if not scientific. By science, therefore, let its finale be investigated.

The indestructibility of *Matter* (?) and the conservation of energy are the recognised masterpieces, crown and complement, of science. Let us suppose, then, that the theory of molecular physics had passed from the region of conjecture to that of almost established fact, and had, at last, only to be confronted with these two great generalisations. How would it fare? Under the laws of dynamics, of which the conservation of energy is the complement or unification, there is recognised always an equivalency between cause and effect. Mr. Romanes, discussing, then, this passage of molar physics into mental manifestations, writes: “As between Matter and Motion on the one side, and feeling and thought on the other, there can be no such equivalency conceivable, even on the grounds of Materialism itself. For Materialism is bound to accept *the* fundamental doctrine of modern physics—that, viz., as to the conservation of energy; and, therefore, it becomes evident that, unless

we assimilate thought with energy, there is no possibility of a causal relation, or a relation of equivalency, obtaining between the one and the other. The Matter and Force concerned are indestructible quantities, and therefore all their possible equations are fully satisfied within the sphere of cerebration, no quantum being left over to pass into the sphere of thought.....It is no more possible for any one of the forces concerned to escape from Brain to Mind than for such an escape to occur in a steam-engine or a watch; [therefore] the doctrine of the conservation of energy forms an insuperable bar to the supposition that any equation in the region of physics can be left unsatisfied in order to pass over and satisfy some other equation in the region of psychics.”\*

Nor is this all. For, though Materialism is thus shown to be suicidal, there is yet one more retreating place, one more citadel, to which the Monist may retire. Some few, though knowing it to be a *cul de sac*, have ventured to make here one more last stand. Say they, there is a possibility of thought and energy being transmutable. Heat, light, electricity, and magnetism are but modes of Motion, various manifestations of one underlying Force. Why not thought also? Let us again turn to Mr. Romanes: “This view is also inherently impossible. Suppose that physiologists should discover a mechanical equivalent of thought, so that we might estimate the value of a calculation in thermal units, or the ‘labour of love’ in foot pounds; still, we should have only cut a twist of flax to find a lock of iron. For, by thus assimilating thought with energy, we

\* “The Fallacy of Materialism,” by G. J. Romanes, *Nineteenth Century*, December, 1882.



should have in no wise explained the fundamental antithesis between subject and object. The fact would remain more unaccountable than ever that Mind should present absolutely no point of real analogy with Motion. Involved with the essential idea of Motion is the idea of extension: suppress the latter, and the former must vanish; for Motion only means transition in space of something itself extended. But thought is known and distinguished by the very peculiarity of not having extension. Therefore, even if we were to find a mechanical equivalent of thought, thought would still not be proved a mode of Motion. On the contrary, what would be proved would be that, in becoming transformed into thought, energy would cease to be energy: in passing out of its relation to space it would cease to exist as energy. Therefore, the proof that thought has a mechanical equivalent would simply amount to the proof, not that thought is energy, but that thought destroys energy.....We may, therefore, quit the suggestion that the difficulty experienced by Materialism of showing an equivalency between neurosis and psychosis can ever be met by assuming that some day mental processes may admit of being expressed in terms physical.”\*

Thus we see that, at this end of the chain, judged by the most accurate application of material laws, as laid down by science, the end has come: there remains nothing physical which can overflow, as it were, into mental manifestations. No doubt there is a concomitancy, a parallelism, if you please, between material and mental changes. The association, so far as experience teaches, is invariable; but, whatever may be the ultimate explanation, it is clear that it cannot be a causal one,

\* Ibid.

from Matter on to Mind. In his presidential address before the British Association, Professor Allman ably says : " If we could see any analogy between thought and any one of the admitted phenomena of Matter, we should be justified in the conclusions of Materialism, as being the simplest and as affording a hypothesis most in accordance with the comprehensiveness of natural laws ; but between thought and the physical phenomena of Matter there is not only no analogy, but there is no conceivable analogy ; and the obvious and continuous path which we have hitherto followed up in our reasonings from the phenomena of lifeless matter through those of living matter here comes suddenly to an end. The chasm between unconscious life and thought is deep and impassable, and no transitional phenomena can be found by which, as a bridge, we may span it over."

Dr. Morell writes, treating of the parallel drawn by Cabanis between the action of the stomach in digesting and that of the brain in thinking : " But never can be made clear the transformation of nervous irritation into thoughts and feelings ; never can be imagined the phenomena of Mind to be in any sense forms of organic processes ; never can there be instanced a comparison between the shakings of a fluid and intellectual facts, as though they were essentially the same, only regarded from a different point of view."\* The connecting link between the vibrations of a molecule and a benevolent action or moral sentiment is ever missing. Moreover, as we shall presently see, when we come to treat of Idealism (to quote the words of Principal Caird), " you cannot get Mind as an ultimate product of Matter ; for, in the very attempt to do so, you have already begun with Mind.....In one word, to constitute the reality

\* " History of Philosophy," by Dr. Morell, p. 258.

of the outward world, to make possible the minimum of knowledge—nay, the very existence for us of molecules and atoms—you must needs presuppose that thought, or thinking self, which some would persuade us is to be educed or evolved from them.....To make thought a function of Matter is thus simply to make thought a function of itself."

Dr. Alexander Bain\* writes: "Mental states and bodily states (physical) are utterly contrasted: they cannot be compared; they have nothing in common except the most general of all attributes, degree and order in Time.....Our mental experience, our feelings, our thoughts, have no extension, no place, no form or outline, no mechanical division of parts; and we are incapable of attending to anything mental until we have shut off the view of all that."

Surely enough testimony has now been presented. Is it not demonstrated that the concluding attempt of Materialism to jump from (vulgar) Matter to Mind fails as completely as the earlier effort to pass the gulf from "*Prima Materies*" to physics?

The whole ground of Materialism has now been fairly covered from the Alpha to the Omega, and we think it must be admitted that, as a complete system of philosophy, it has failed—failed to satisfy all the demands of either the emotions or the intellect. Is it, therefore, to be ruled out of court as entirely false and misleading? By no means; the failures arise solely in the endeavour to illegitimately extend its scope in both directions—into the domain of ontology on the one hand, and into the kingdom of mental manifestations on the other. Doubtless there is a bond of union between the three; but the all-encircling girdle must be looked for in a wider

\* Paper on the Correlation of the Nervous and Mental Forces.

generalisation. Mental and material states may be unified in the individual ; but Noumena and Phenomena can alone be reduced to unity and conceivability in the bosom of the Absolute. The fact is, the fallacies lurk almost entirely in the deductions and corollaries ; the fundamental principles underlying this system are, when confined to their proper sphere, the outcome of legitimate induction.

The great and enduring victory that Materialism has won is the demonstration of the unvarying reign of law in the domain of physics : similar causes produce similar effects ; in other words, that a thing *is what it is*.  $I=I$ , and, as this equivalence never fails, order and certainty reign supreme. It is, in fact, the triumphant vindication of the rights of the Many as against the irresponsible, haphazard interference of the One. It is the demonstration that each particle in the universe and each combination of particles has an identity—in other words, a right which *must* be respected, a potentiality which must be reckoned with in all combinations, and that, these identities or potentialities remaining invariable, a certain definite effect due to their mutual intractability will invariably arise from given combinations. This is a legitimate generalisation from observation and experiment—a generalisation which is continually strengthened by the repetition of old and the discovery of new verifications. This is legitimate certainty. Nor are these truths contingent only, as some would maintain ; because they are, in reality, when reduced to their last analysis, merely statements of equivalence. Under certain definite conditions, certain definite results arise ; and this truth is universal and necessary, because if it be asked, May not, at some time in the past or future, or somewhere in Space, varied results follow similar conditions ? the answer is, No ; because some property or force must be added to or

subtracted from your conditions in order to produce a change in the result.\*

And this is also precisely the case concerning the truth of mathematical axioms, over which there has been and is so much argumentation and so much misunderstanding.

We have discussed in the *Prologomena* mathematical truths in detail; consequently it will be well here to complete our case by a supplementary analysis of the general principle. The heroes of a great controversy were Professor Whewell and John Stuart Mill, and the point of their contention amounted identically to this, What is the ground for belief in mathematical axioms? Mill maintained that they are experiential truths, generalisations from experience; while Whewell endeavoured to demonstrate that they are *à priori* and necessary, consequently intuitions. Both, on very similar trains of reasoning to those adopted by Herbert Spencer and Professor Tait, were wrong in their conclusions, although both had some truth in their premises. Mill was partly right and partly wrong as claiming these axioms as experiential truths—wrong, in the first place, because the lines of mathematics, being length without breadth, the points being starting-places without themselves possessing extension, are clearly not derived from experience; because we have no experience of these things, and, materially speaking, they do not exist. He was right, however, in claiming them as within the domain of experience, because they are mental abstractions from experiences, whereby the varying superficies of objects lying in our three dimensional space may be reduced to unification of conception and adequately discussed. Whewell, on the other hand,

\*. See *Prologomena*; Newton's second law of motion.



was right as claiming them to be universal and necessary, because, they are, in reality, equivalences of statement ; but he was clearly wrong in *therefore* demanding the corollary that they were consequently *à priori* and intuitional. Parallel straight lines cannot enclose a space, however far produced. But this is merely the equivalence of saying that a space cannot be enclosed by parallel straight lines, because the definition of parallel lines is two straight lines which never meet. The moment the potentialities of approach are given to parallel lines, simultaneously therewith they cease to be parallel, because parallel lines are defined as excluding such potentialities. I am aware, however, that the professors of the higher mathematics gravely tell us that it can be demonstrated that parallel lines produced to infinity must certainly meet at infinity. Certain formulæ may, indeed, give such a result ; but there is most assuredly an indistinctness or undistributed middle lurking in the process of deduction ; and, on pursuing the inquiry, it is found that the juggle is in the term "infinity." They will admit that, produce parallel straight lines as far as you will, there are and can be no signs of approach ; *but* they will certainly meet at infinity, the explanation being that, however far the lines are prolonged, infinity can never be attained, consequently the lines will never meet. The undefined, undistributed factor is, therefore, the term "infinity," which is used with an indiscretion similar to that which we have already pointed out is usual with the term "Matter."

These mathematical formulæ, then, in common with the legitimate postulates of (vulgar) Matter, Force, and Law, are not only not merely contingent, but are certain and necessary, as being equivalences of statement ; but neither are they, on the one hand, *à priori* and intui-

tional, nor are they, on the other, longer to be regarded as continuing to be valid the moment a change, actual or implied, takes place in either side of the given conditions. It will be remembered that, in our system of symbolisation, we have posited that the actualisation of passivity and the actualisation of activity developed into organised passivity (Force) and organised activity (Force), which was the basis of the domain of physics; and these two factors are real and necessary, being equivalences of statement—they are the underlying postulates of the concepts of phenomena. But the postulates, definitions, and equivalences of this organised and evolved product are applicable to the evolved product alone, and are not applicable or true of the underlying concepts, either of “Substance” or *à fortiori* of “*Prima Materies*.” As Stallo writes: “The truth is, neither Mass nor Motion is substantially real; they are both concepts, or rather constituents of a concept.”\*

Mass, in our system of symbolisation, being the potentiality of infinite passivity, and Motion the potentiality of infinite activity, it becomes clear that the endeavour to extend the notions of atomicity or vibration to them is a contradiction in terms; and it is this contradiction from whence arise the various fallacies of material ontology. The irony of fate is shown in the self-contradiction involved in the attempt. Having recognised and investigated organisation or entity, law, order, and certainty, the outcome of the endeavour to pass from this domain results in the reduction of organisation to non-organisation (homogeneous atoms), entity to non-entity (points without extension), and law and order to chaos (blind chance); and here are the principles of certainty converted into non-certainty and

\* Stallo, “Concepts of Modern Physics,” p. 149.

the deductions of sense sublimated into non-sense. The principles of certainty have been arrived at from the consideration of equivalences of statement ; but it is overlooked that, if equivalences on either side of the equation are altered, as in such endeavour they tacitly are, then unaltered inferences or conclusions no longer possess validity.

Since the bulk of this essay was published in the *Secular Review* an unexpected pronouncement has appeared. Professor Huxley, who, as he himself deplores, has for many years been objurgated as a Materialist, Atheist, Positivist, or even as an Obscurantist, while all the while he was simply a steady-going Agnostic, has been at last roused by Mr. Lilly's attack\* to come forward with a blast from the housetop, which will, at all events, be sufficient to cause all candid controversialists to dissociate his name for ever from Materialism. This declaration, coming from one who is justly regarded as being in the forefront of living scientists, is of such importance, and is so exceedingly germane to the points we have been discussing, that somewhat lengthy extracts will be in place. Professor Huxley writest :—

“ Nobody, I imagine, will credit me with a desire to limit the empire of physical science ; but I really feel bound to confess that a great many very familiar and, at the same time, extremely important phenomena lie quite beyond its legitimate limits. I cannot conceive, for example, how the phenomena of consciousness, as such and apart from the physical process by which they are called into existence, are to be brought within the bounds of physical science. Take the simplest possible example, the feeling of redness. Physical science tells us that it commonly arises as a consequence of molecular changes

\* *Fortnightly Review*, November, 1886.

† “ Science and Morals,” by Professor Huxley, *Fortnightly Review*, Dec., 1886.

propagated from the eye to a certain part of the substance of the brain, when vibrations of the luminiferous ether of a certain character fall upon the retina. Let us suppose the process of physical analysis pushed so far that we could view the last link of this chain of molecules, watch their movements as if they were billiard balls, weigh them, measure them, and know all that is physically knowable about them. Well, even in that case, we should be just as far from being able to include the resulting phenomenon of consciousness, the feeling of redness, within the bounds of physical science, as we are at present. It would remain as unlike the phenomena we know under the names of Matter and Motion as it is now.....Obviously, it is one thing to say that the logical methods of physical science are of universal applicability, and quite another to affirm that all objects of thought lie within the province of physical science.....and assuredly I have never given the slightest ground for the attribution to me of the ridiculous contention that there is nothing true outside the bounds of physical science.....But, to repeat what I have more than once taken pains to say in the most unadorned of plain language, I repudiate as philosophical error the doctrine of Materialism as I understand it, just as I repudiate the doctrine of Spiritualism as Mr. Lilly presents it ; and my reason for thus doing is, in both cases, the same—namely, that, whatever their differences, Materialists and Spiritualists agree in making very positive assertions about matters of which I am certain I know nothing, and about which I believe they are, in truth, just as ignorant.....I understand the main tenet of Materialism to be that there is nothing in the universe but Matter and Force, and that all the phenomena of nature are explicable by deduction from the properties assignable to these two primitive factors. That great champion of Materialism

whom Mr. Lilly appears to consider to be an authority on physical science, Dr. Büchner, embodies this article of faith on his title-page, *Kraft und Stoff*—Force and Matter—are paraded as the Alpha and Omega of existence. This, I apprehend, is the fundamental article of the faith Materialistic; and whosoever does not hold it is condemned by the more zealous of the persuasion (as I have some reason to know) to the Inferno appointed for fools and hypocrites. But all this I heartily disbelieve; and, at the risk of being charged with wearisome repetition of an old story, I will briefly give my reasons for persisting in my infidelity. In the first place, as I have already hinted, it seems to me pretty plain that there is a third thing in the universe—to wit, consciousness, which, in the hardness of my heart or head, I cannot see to be Matter or Force, or any conceivable modification of either, however intimately the manifestations of the phenomena of consciousness may be connected with the phenomena known as Matter and Force. In the second place, the arguments used by Descartes and Berkeley to show that our certain knowledge does not extend beyond our states of consciousness appear to me to be as irrefragable now as when I first became acquainted with them some half century ago.....But, if this is true, our one certainty is the existence of the mental world, and that of *Kraft und Stoff* falls into the rank of, at best, a highly probable hypothesis. Thirdly, when I was a mere boy.....my mind was greatly exercised by this formidable problem, What would become of things if they lost their qualities? As the qualities had no objective existence, and the thing without qualities was nothing, the solid world seemed whittled away, to my great horror. As I grew older, and learned to use the terms Matter and Force, the boyish problem revived, *mutato nomine*. On the one hand, the notion of Matter



without Force seemed to resolve the world into a set of geometrical ghosts, too dead even to jabber. On the other hand, Boscovich's hypothesis, by which Matter was resolved into centres of Force, was very attractive. But when one tried to think it out, what in the world became of Force considered as an objective entity? Force, even the most Materialistic of philosophers will agree with the most Idealistic, is nothing but a name for the cause of Motion. And if, with Boscovich, I resolved things into centres of Force, then Matter vanished altogether, and left immaterial entities in its place. One might as well frankly accept Idealism and have done with it.

"I must make a confession, even if it be humiliating. I have never been able to form the slightest conception of those 'Forces' which the Materialists talk about, as if they had samples of them many years in bottle. They tell me that Matter consists of atoms, which are separated by mere space devoid of contents; and that, through this void, radiate the attractive and repulsive Forces whereby the atoms affect one another. If anybody can clearly conceive the nature of these things, which not only exist in nothingness, but pull and push there with great vigour, I envy him for the possession of an intellect of larger grasp, not only than mine, but than that of Leibnitz and Newton.\*

"To me '*chimera, bombinans in vacuo quia comedit secundas intentiones*' of the schoolmen is a familiar and domestic creature compared with such 'Forces.' Besides, by the hypothesis the Forces are not Matter; and thus all that is of any particular consequence in the world turns

\* See the famous "Collection of Papers," published by Clarke in 1717. Leibnitz says: "It is also a supernatural thing that bodies should *attract* one another at a distance without any intermediate means." And Clarke, on behalf of Newton, caps this as follows: "That one Body should attract another, without any intermediate *means*, is, indeed, not a miracle, but a contradiction; for it is supposing it to act where it is not."

out to be not Matter, on the Materialists' own showing. Let it not be supposed that I am casting a doubt upon the propriety of the employment of the terms 'Atom' and 'Force,' as they stand among the working hypotheses of physical science. As formula which can be applied with perfect precision and great convenience in the interpolation of nature, their value is incalculable; but, as real entities, having an objective existence, *an indivisible particle, which, nevertheless, occupies space*,\* is surely inconceivable; and with respect to the operation of that atom, where it is not, by the aid of a 'Force,' resident in nothingness, I am as little able to imagine it as I fancy any one else is.....I have always entertained a strong suspicion that the sage who maintained that man is the measure of the universe was sadly in the wrong, and age and experience have not weakened that conception.† .....Physical science is as little Atheistic as it is Materialistic."

Comment on this is unnecessary. Many of the points here raised we have already discussed in full; but these extracts speak for themselves, and, content with both the moral and active support of so great a scientific authority, we can now pass on to sum up and set forth the results which have been attained.

The principles and conclusions of Materialism having now been passed under review, analysed, and discussed, the time has arrived when we may set them forth in a crystallised form in the shape of definite propositions. That these propositions do represent fairly the position and contentions of Materialists, the ample quotations which we have furnished afford conclusive proof; but, apart from the mere setting forth of the doctrine, a little ingenuity will enable us to so embody them that the

\* The italics are mine.—W. B. McT.

† In this connection see "Life and Mind," by Dr. Lewins.—W. B. McT.

truths and fallacies of each proposition may, in light of the lengthy discussion they have been subjected to, be readily separable.

#### AXIOMATIC AND COROLLARATIVE PROPOSITIONS OF MATERIALISM.

##### I.

All our knowledge of every kind is derived solely from experience, therefore all ontological knowledge, if such be attainable, must have its roots in experience also; *consequently, there are no necessary or universal truths, but only contingent truth.*

##### II.

Experience, the root of knowledge, is possible for us only through sensation; in other words, by means of organisation, or Body. *Consequently, Mind is the outcome of Body. Body wholly dominates Mind.*

##### III.

Reason, from experience, being the only guide, there are no *à priori* intuitions. *Consequently, the Mind is capable of educing no wider generalisations than can be formulated from the contemplation of Matter, Force, and Law, which are properties of that body through which experience, and therefore reason, alone can come. This contemplation leads directly to the only possible solution of all problems, ontological as well as phenomenal, and the ontological portion of the problem must perforce be answered as follows:—*

*Firstly. There may be no ontological problem to solve. If, however, there is, then—*

*Secondly. There may be no solution possible. But, if there is a solution, then—*

*Thirdly. The mechanical solution can alone be accepted as conceivable, possible, or desirable.*

## IV.

There is an eternal not-ourselves, an actual, concrete reality, and constituent of the universe, with which we have to reckon. This manifestation compels the recognition of the existence, individuality, and rights of the many. *This eternal not-ourselves, in all its phases, is, however, only the varied presentation of a blind, unintelligent, cosmical energy; therefore the Many (the manifestations of this energy) is the be-all and end-all; for there is no One, or right of the One, or underlying unity, because the absolute basis of multiple manifestations is but perfected subdivision, the connecting principle of unity being finally satisfied by reduction to uniformity, and finds its complete expression in the equalisation of the Many.*

## V.

In this eternal not-ourselves there is discernible a principle of Law and Order, Cause and Effect, by which we must be guided. *Nevertheless the ultimate analysis of this all-ordered cosmos results in the resolution of order, which is the arrangement or fitting together of inequivalences, into the impotentiality of order; or the endless, formless, unarrangement of absolute equivalences; in the reduction of definite effect preceded by definite cause into indefinite chaos or causeless chance.*

These five propositions contain the leading postulates, both axiomatic and corollarative, of the Materialistic doctrine. Casting our minds back over the course of our investigation, it will be seen that much herein contained has been demonstrated as true and must be considered as proven. Much, on the other hand, has been demonstrated to be fallacious, and must be ruled out of court. Now, in order to assist the memory by regrouping the successive steps of our argument and thus crystallise

in our minds the tenour of our conclusions, we also may formulate five propositions representative of the axioms and corollaries which we have been driven to adopt. These propositions, it will be found, are not merely counter propositions to those already laid down. With Materialism they will be seen to be coterminous, and the portions that they have actually in common may be taken as discovered "truth":—

AXIOMATIC AND COROLLARATIVE PROPOSITIONS DEDUCIBLE  
FROM OUR INVESTIGATION OF MATERIALISM.

I.

All our knowledge of every kind is derived solely from experience; therefore, all ontological knowledge must have its roots in experience also. *But there are truths universal and necessary, deducible by the experience, and these are such and such only as can be reduced to "equivalences of statement."*

II.

Experience, the root of knowledge, is possible for us only through sensation; in other words, by means of organisation, or Body. *But there is a double factor in experience arising through sensation; there is the stimulus, but there is also the capacity of response to stimulus Mind, consequently, is not the outcome of Body, but is its complement; and it is by means of their mutual interaction that experience and, consequently, knowledge or cognitions arise for us.*

III.

Reason, from experience, being the only guide, there are no *à priori* intuitions. *The Mind is, however, capable of educing wider generalisations than can be formulated from the contemplation of Matter, Force, and Law, because*



there is a wider basis for the data of experience. *Matter, Force, and Law*, representing the objective or stimuli, are but the superficies. The subjective, or response to stimuli—that is, the personality or postulate of *Existence or Being*, the unifier, the underlier—can be and must be taken into account. Consequently—

*Firstly. There is a problem of ontology owing to the necessary acceptance of the postulate of Being.*

*Secondly. The recognition of such problem, or something to be solved, is a completed demonstration of the possibility of its solution. It is an equivalence of statement.*

*Thirdly. The formula of mechanics, or the mechanical solution, being derived from the data of body or material organisation, can by no means comprehend all the data necessary for solution of the problem. The data of the other factor, the Mind, or unifier, must also be taken into account.\**

#### IV.

There is an eternal not-ourselves, an actual, concrete reality and constituent of the universe, with which we have to reckon. This manifestation compels the recognition of the existence, individuality, and rights of the Many.

*This external not-ourselves, wherein and whereby Mind is made manifest, if divested of Mind or the intelligent factor, cannot be represented as the be-all and end-all,*

\* Does not this seem clear by simple introspection? Let us put it to the test. The problem of Being, it will be admitted, is exceedingly complex. Experience tells us so. In fact, this complexity it is which is the problem. The recognition of complexity, however, is the recognition of parts or factors. Consequently, that which has parts, has parts, or is divisible. This is an equivalence of statement, and is, therefore, universal and necessary. The recognition, then, that there is a problem of Being is exactly interchangeable and equivalent with the possibility of its solution. That which has parts is capable of division into those parts, although we may never find, or, if we find, learn how to use, the tool. But the recognition of a Synthesis is equivalent to the assertion of Analysis.

*for its very manifestation being presentable only through Mind demonstrates that there is an intelligent factor which must also be regarded. Therefore, although the rights of the Many deserve full recognition, there is also a One, or unifier, in which the principle of Being, or Entity, or Rights, can alone inhere. This principle is manifested equally through the individual, which is One, or through the Many, which is but the collection of individuals; consequently, the rights of the One or of each and all the individualities demand a recognition according to the potencies of their individualities, as formal and complete as the recognition of the collective rights of the Many. The principle of unity, or of individuality, therefore, is not satisfied by the equalisation of the Many. Unity implies form. Equalisation of units is the destruction of form. Unity is the principle of integration and solution. Equalisation is the principle of disintegration and dissolution.*

## V.

In this eternal not-ourselves there is discernible a principle of Law and Order, Cause and Effect, by which we must be guided. *Consequently, in ultimate analysis, that final principle of unification, that postulate of Being from which we started, must include potentialities of this Law and Order, and this principle of Law and Order must, therefore, be reckoned among the certainties and necessities of the postulate of Being, because Law and Order, also, are reducible to equivalences of statement.\**

\* Law and Order, Cause and Effect, are but other forms of expression of Newton's second law of Motion. If A is an impressed Force and B the resultant Motion, then  $2A$  will produce  $2B$ . All Cause and Effect are the balanced equivalents included in the postulate of Being. If A, B, and C produce X, then A, B, and C+D will produce a change or modification in the resultant X exactly equivalent to the additional powers brought into the equation by the addition of D.  $A=A$ : this is the law of Causation, universal and necessary, because it is reduced to the underlying equation. If the postulate of Being is the equivalent of all the variations and manifestations of Mind and Body, Force, Extension, and the rest, then there is no integer in the

These five amended propositions are the results of the axioms which have been accepted and the corollaries which are legitimately deducible therefrom.

It will be seen that, owing to the special form which we have adopted in drawing up both sets of propositions, they are readily divisible into two parts—namely, axioms and corollaries. The axioms of both are identical, but the corollaries are different; and, in order that they may more readily take hold of the imagination, we have printed them in italics. It will be seen that the corollaries of the first set of propositions are almost the exact antithesis or counterpart of the corollaries of the second. What are we to infer, therefore, from this? We can but admit that, from identical postulates, even although the postulates themselves are sound, very diverse conclusions are possible. What then? Are we to *assume* that the corollaries of Materialism are incorrect, and that the amended formula must be adopted? Far from it. All that we are justified in assuming is that the axiom, the postulates common to both, have stood the stress of weather, and must, therefore, be incorporated in any system of truth; but the corollaries—they have still to be hammered out on the anvil of the intellect. It is true that much evidence in disproof of the first series of corollaries has been educed, and that much in support of the second series has been forthcoming. Nevertheless, the available data are so intermixed and woven with the many-shaded threads of Mind and of Body that it is impossible to consider all the phases under the heading of Materialism alone. It is not until

complex of phenomena which has not its equivalent, its Cause, within the potencies of that which is on the other side of the equation. Let X be the Absolute, or postulate of pure Being; then, if X is the underlier or container of all phenomena (Y), no further demonstration is required that every intricacy of arrangement, of manifestation, of development of Y, has its equivalent or cause within the bounds of unknowable X.

we have investigated the subject from every point of view—from that of Idealism, Theism, Pantheism, and the whole round of thought—that we can finally pass an opinion upon the soundness of this or that deduction. Meanwhile there are certain underlying axioms discoverable in Materialism which have stood the test of our inquiry, and so far these may now be seized upon as the first fruit of our labours.

They are these :—

AXIOMS OF MATERIALISM WHICH HAVE BEEN DEMONSTRATED, AND WHICH MUST, CONSEQUENTLY, BE ACCEPTED AS PART OF TRUTH.

I.

All our knowledge, of every kind, is derived solely from experience ; therefore, all ontological knowledge must have its roots in experience also.

II.

Experience, the root of knowledge, is possible *for us* only through sensation—in other words, by means of organisation, or Body.

III.

Reason, from experience, being the only guide, there are no *à priori* intuitions.

IV.

There is an eternal not-ourselves, an actual concrete reality and constituent of the universe, with which we have to reckon. This manifestation compels the recognition of the existence, individuality, and rights of the Many.

V.

In this eternal not-ourselves there is discoverable a principle of Law and Order, Cause and Effect, by which we must be guided.

These axioms, then, have been demonstrated ; they are the outcome of the investigation and analysis of the data of experience, *from the Materialistic point of view*, and, as such, they may be accepted. How far they are universal and necessary depends upon whether they can be expressed as equivalences of statement and postulated in the eternal equation,  $I=I$ . To this we shall hereafter see they are all reducible, as truisms and equivalences ; for they are all discovered from the postulate of Being, and if, therefore, they were not unifiable under the concept Being, then they would not be discoverable from the examination thereof, but would be contradictions in terms. However, in the meantime, although we may now accept these demonstrations as necessary and universal, we must remember that, like Space and Time and all other equations, they hinge upon experience—in other words, upon data. So far, then, as they go, they are universal and necessary ; but they are *not therefore* exclusive. All these postulates and axioms are derived from certain definite, and consequently limited, experiences of Being ; and so far they are necessary and certain. They may not, however, for one moment be deemed as defining, limiting, or demanding the exclusion of all other equations of Being whatsoever. These conclusions from given data are universal and necessary, and this can no longer be questioned ; but they may exist synchronously within Infinity, intimately intermingled it may be, yet independently of, other to us unknown potentialities of Being, of which, having no data, we have no experience, no knowledge. Always, then, bearing the true scope of their validity in mind, we can now pass on to the discovery and elucidation of other and complementary verities.



PART III.

IDEALISM.



## IDEALISM.

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THE most accurately reasoned and scientific Materialism, in its higher expression, may be defined as that system which, starting from the *Côgito, ergo sum*, accepts the postulate of Being,  $I=I$ , and views all things, therefore, through the medium of the Ego. But, after having accepted the starting point of unity, it nullifies and stultifies itself by immediately affirming that this unity, or conscious Ego, is but the outcome, the result, of the Many; overlooking the undeniable representation of Pythagoras, that the Many cannot be postulated unless unity is already given—somewhere, somewhen.

Idealism, in its purest, most logical, and most defensible form, starts also from the *Cogito, ergo sum*, and accepts in like manner the postulate of Being,  $I=I$ , and views all things, therefore, also through the medium of the Ego.

As Religion and Philosophy are twain, though one at heart, and go hand in hand together for a distance, all too brief; so Idealism and Materialism are twain, though one at heart, also. Thus far they proceed together. But the reflection of the cosmos, viewed through the medium of the Ego, produces in each case a divergent—nay, a mutually-destructive—response. Materialism finds nothing but the Many; Idealism finds nothing but the One; Materialism affirming that unity, or the Ego, is but the synthesis or outcome of the Many, while Idealism asserts that the Many, or the Non-ego, is, on analysis, but the amplification of the One.

The fallacy of Materialism lies in overlooking the fact that the Many is dependent in reality on the One. The fallacy of Idealism consists in overlooking the fact that the unity, or Ego, is but a synthesis of many parts and many factors, and that the One may not be postulated unless the Many is already posited—somewhere, somewhere.

Materialism is the purely objective point of view and answer ; Idealism is the purely subjective point of view and answer.

The two are antagonistic to each other, equal and opposite, and have been believed exclusive ; yet, in reality, they are but complementary, mutually necessary.

Both profess to be complete and satisfactory in themselves ; nevertheless, they are felt to be unsatisfactory, for they lead no whither. If the sequences of each are carried boldly out into their logical conclusions, a *reductio ad absurdum* results in either case. Both, doubtless, contain some truth ; but each is one-legged at best, and is fain to cry out for support from the other ; and their mutual co-operation must be attained before definite progress can be made.

The conclusions of Materialism result in conscious automatism, or the *practical* denial and stultification of the *Cogito, ergo sum*. *Cogito, ergo sum* was the starting point, and from thence the Many was deduced. The Many, or the Not-self, having been discovered, the Many then seemed to be the all. The One was found to be compound, a multiple or synthesis of parts ; and in the enthusiasm of this discovery the “Cogitor,” or the unified synthesizer of the parts, was overlooked, and the answers to the questions, Whence ? and What ? were given :—One is of the Many, therefore there is no One—either an absolute One or a relative One. What is the Ego ? It is but the Many. Particularity, or indi-

viduality of existence, cannot be found in any other form than by the reduction of all things to the mechanical equivalences of homogeneous atoms in uniform arrangement. This is the whence ; this is the what. Mechanical equivalence in the premises, logically enough ; mechanical equivalisation in the conclusions.

Materialism is the objective explanation to the *exclusion* of the subjective.

The principle of identity, or of Being, though lost sight of for the time, presently, however, re-asserts itself ; the *Cogito, ergo sum* is once more recalled to memory, and in re-action from so one-sided an explanation a start is again made, and another one-sided explanation, Idealism, is the result. "I am" is the one certainty ; the Not-self consequently hinges and depends upon the Ego ; for the Many is composed of nothing but the aggregation of the One. This is the equally one-sided hypothesis contrary to and complementary of the other. It is the recognition of all things through the medium of the One.

Materialism proclaims, "There is no One." Idealism asserts, "There is but One."

Idealism is the subjective explanation to the exclusion of the objective.

I, the Ego, is the sole existence, the sole certainty, maintains the Idealist ; and this is his train of reasoning. *Cogito, ergo sum*—I think, therefore I am : I cognise. This is the postulation ; but the questions thence arising are, How do we cognise ? and What is it that we succeed in cognising ? Firstly, it appears that our cognitions are broadly divisible into two classes, or may be grouped under two headings—the Self and the Not-self, the Ego and the Non-ego. This classification is, however, of a somewhat arbitrary character, and prolonged investigation makes it more clearly manifest that the cognition of



the Ego is the permanent and ever-present factor whenever cognition is present, and is always recognisable. The Non-ego, though also present *in some form or other*, is a good deal more vague and uncertain ; and, moreover, it is found that this Non-ego is not at all times separable from the Ego, and, in fact, as we shall see, is, in last analysis, reducible into the Ego, or, at least, into an alter Ego, or manifestation of the Ego. The more we examine our cognition, and the wider our experience, the more and more shadowy and unrealisable, or rather the more inseparable from the Ego, does the Non-ego prove to be ; therefore, experience continually resolving more and more of the Non-ego into simple manifestations of the Ego, it is assumable, and not without reason, that a wider range of experience will continue in the same direction to minimise this Non-ego ; and, possibly, perfect experience, or a knowledge of all things, might result in the complete unification of the two factors of our knowledge. In fact, it is already well open to consideration whether the sum of our experience is not, even at present, sufficient to demonstrate their identity. In any case, however, it must be admitted that we think or cognise through the Ego, and not through or by means of that extremely uncertain and doubtful "otherness" which we have hitherto distinguished by the somewhat question-begging title of the "Not-ourselves." The Ego, therefore, is the one great certainty without which cognition is impossible ; and, bearing this firmly in mind, let us proceed to investigate the evidence which we have already alluded to in outline, so that the validity and weight which may be attached to the evidence can be duly estimated.

Let us ask, What do we know of Body ? What are chairs and trees and earth and sea and sky ? Examination discloses that we know them not *per se*. The only

objects of which the mind can be conscious are its own ideas ; consequently our ideas of the various objects are all that we can know. What, then, are ideas ? Are they not exact resemblances or copies of chairs and trees and earth and sky ? It will shortly be demonstrated beyond all question that they are not *exact* resemblances—in fact, not even resemblances at all. What it is that underlies the objects we can never know, because, whatever that underlayer may be, if we find it, it can only be conceived of as an idea ; and this idea, again, is demonstrable to be a thing apart, differing not in degree, but in kind. Our ideas, consequently, are the only *real* existences for us, and there is nothing anywhere at all like them with which they may be compared. As Berkeley forcibly puts it : “ But, say you, though the ideas themselves do not exist without the Mind, yet may there not be things like them whereof they are copies or resemblances, which things exist without the Mind in an unthinking substance. I answer, *an idea can be like nothing but an idea* ; a colour or figure can be like nothing but another colour or figure. Again I ask whether those supposed originals or external things, of which our ideas are the pictures or representations, be themselves perceivable or no ? If they are (perceivable), then they are ideas, and we have gained our point ; but, if you say they are not (perceivable), I appeal to any one whether it be sense to assert a colour is like something which is invisible ; hard or soft like something which is intangible.”\* As we shall presently see, Berkeley’s position is very materially strengthened by the results of modern scientific investigation.

Herein, then, claims the Idealist, lies the only solution of the problem. It is in the recognition of the unifi-

\* “ Principles of Human Knowledge,” Berkeley, sec. 8.

cation of the ideal and the real—that both *are* one ; a recognition which is forced upon us by analysis, and from which there is no escape. There is no objective reality underlying. Ideas, however, which are found to be the only realities for us, are admittedly productions of the Mind ; the Ego, consequently, is not merely the unifier and organiser—it is the producer, the “Creator ;” Object as well as Subject. The Ego, then, is the only existence underlying.

Day by day, as, what we call, physical analysis, investigation, and experiment gather knowledge, so does this train of reasoning bring increased conviction. In the days of the earlier philosophic theses, when the methods of observation and experiment were unknown, Idealism scarce raised its head. As the domain of Physics enlarged its borders, as the knowledge of the contents of the universe increased—that knowledge which is vulgarly supposed to demonstrate more completely and confirm more surely the conclusions of Materialism—the conviction is pressed home more strongly that what is vulgarly termed “Matter” has no home, no locality, no place, save in the domain of Mind. Physical analysis is, to-day, busy with the demonstration that even extension is but a form of Force expressible only in terms of Mind ; and the last barriers between Matter and Mind are thus being surely broken down. These demonstrations of science, then, all-important as is their bearing on this question, must undergo our careful scrutiny.

Sound is scientifically demonstrated as resulting from vibration—the vibration of the atmosphere ; waves of vibration sweeping in all directions from a given centre of disturbance. These pulsations are ascertainable to be of different though definable periods, progressing with a synchronous movement through the atmosphere. The

shorter and more rapid the swing of pulsation, the higher, the shriller, the note. The slower and further apart the movement of the swing of pulsation, the lower the note. The wider the swing in each case, the lower or more intense the sound—pitch or note apparently depending on rate of vibration ; intensity upon the extent of or scope of vibration. What then ? *There is no sound* in all creation as apart from the Ego, its creator ! There soars the lark, the little throat swelling and bursting with its melody. Downwards, upwards, and all around pass the vibrations through the atmosphere ; but in all the Space *no sound* is there. At length, some of these vibrations are arrested by an organism called an ear. Nerve motion is set up ; along the nerves a message seems to pass into the brain. Behold our excitation ! cry the nerves. Respond thereto, O brain ! A response is accorded by the brain ; *but even this is not sound*—simply disintegration of brain tissue, or molecular change in the grey or white matter ; that is all. The dynamical equivalent is complete, the equation is fully satisfied ; yet no sound can be discovered in all this train of mechanical sequences. Once more : *No sound* is in the air ; vibrations only pass. *No sound* is in the ear or nerves ; vibrations only pass. *No sound* is in the brain ; molecular change, the exact dynamical equivalent of the impressed Force, alone results. Where, then, is sound ? Sound is a creation of the Mind, parallel to the molecular change of brain substance, but in no sense its equivalent or product. The sound is *not* in the lark ; it is *not* in the air, it is *not* in the ear, it is *not* in the nerves, *nor* is it in the brain. Sound is of its creator, the Mind, alone.

Light and heat, in similar manner, are experimentally considered to arise from vibrations also—vibrations of a suppositious æther, postulated, as a mode of conveyance, in analogue to the atmosphere the vehicle of sound, as

the medium of communication. I say experimentally considered, for, in using the deductions of science, we must perforce use the language of science ; but, in last analysis, vibrations and æther, as well as ear and nerves and brain, are but ideas or creations of the Ego also. Sound, heat, and light are, in the phraseology of science, invariably described as propagated by means of air, by means of æther—described, that is, as if they were entities proceeding or conducted over by means of a road or bridge ; and perhaps such terminology, though regrettable as misleading, is unavoidable. Nevertheless, let us steadfastly bear in mind the indisputable truth that light and heat and sound, although physically described as resulting from or through vibrations, arise, each and all, in one indivisible centre only. That is in the Mind.

From these considerations it has now become plain that there is neither light nor heat in the sun, nor in any fire ; violent vibrations there may be—a banging to and fro of infinite particles by infinite energy ; but through the infinite turmoil of infinite years no glisten of light, no glow of warmth, has been there. Modes of this turmoil become periodic, and vibrations affect the ethereal ocean. Some of these periodic motions run a course the parallelism to which is light, and others heat ; but they are never *transformed* into either. Light and heat, like sound—in fact, like every other thing—are not even bodily, but are purely mental, creations. They and their vibrations, the sun, the whole extent of universe, the Absolute itself, are but the outgrowing entia of the Mind.

The light and heat are *not* in the sun ; they are *not* in the ethereal vibrations ; they are *not* in the nerve excitations ; they are *not* in the disintegration or molecular change of brain tissue. Light, heat, and sound,



tables, trees, and men, are, one and all, ideas, manifestations pure and simple of the Ego—manifestations, however, it may be urged, provoked by vibrations, provoked by nerve excitations, preceded or accompanied, it may be, by tissue disintegration—impossible, it has frequently been claimed, without these accompaniments. Nevertheless, in last analysis, light, heat, and, sound, tables, trees, and men, disintegration of nerve tissue, nerve excitation, vibrations, force—all are the sole product of the Ego.

Let us pursue this demonstration further. It will be found that neither colour, shape, weight, unity, nor plurality, or any other quality, *can* inhere in the objective; and the subjective is, therefore, necessarily all-in-all.

Let that which is commonly called a beam of light, but which is more nearly a manifold system of vibrations, fall on a triangular piece of glass or prism: the beam, then, becomes split up into its constituent systems, and seven sets of systems departing at divergent angles from the prism become recognisable as the seven fundamental colours, or colours of the rainbow. We know, however, that the original beam contains far more than seven systems; but our eyes are not sensitive to those passing away at either end of the central group we recognise, in the same way as our ears are not sensitive to other periods of vibrations, which can be demonstrated to exist both above and below the gamut. But these seven colours—what are they?

Vibrations hitherto entangled have been separated, and each for each conveys varying excitations to the proper nerves. The Mind, the Ego, in response, blazes forth as colour. Is there, then, no colour in the universe, in all the broad expanse of heaven, or in the clusters of the rose? There is *no* colour there. The united systems of vibrations, which we vulgarly call light,

fall on the clouds, the flower, the bird, the butterfly. All and each object possesses a power of dividing up these beams, similar somewhat, although different in manifestation, to the power of the prism. The rose or the butterfly disentangles this complex system of vibrations, and some of these they absorb into their inner being, utilising them for other ends. (Plants, it is believed, utilise these absorbed vibrations for the production of chlorophyl.) Some they reject altogether ; some they partly absorb and partly reject ; but this rejection is reflection. Back the unabsorbed vibrations go, recrossing the ethereal ocean—still vibrations, waves ; but waves less complex. To these the optic nerve responds in excitation, as it did to the vibrations split up by the power of the spectrum. As a result, the Ego creates a colour. Physically speaking, if the vibrations reflected or hurled back from a leaf or flower are those of longer period, like those from one end of the spectrum, the colour of that plant or flower appears of reddish hue ; if short and rapid vibrations are returned, as from the other end, then violet ; and varied vibrations, commingling after separation, result in varying shades of colour. Ten thousand possible variations, ten thousand shades of colour ; but they are *not* in the flower ; they are *not* in the eye. They are pure mentations of the Ego.

The march of science daily makes it more clear, if further demonstration was needed, that we do not know anything *per se*—nay, more, we do not know anything at all, are not conscious of anything whatever, *except* our own ideas—that is, our own *creations*.\*

\* Professor Huxley writes : “ The arguments used by Descartes and Berkeley to show that our certain knowledge does not extend beyond our states of consciousness appear to me as irrefragable now as they did when I first became acquainted with them half a century ago. All the Materialistic writers I know of who have tried to bite that file have simply broken their teeth. But, if this is true, our one certainty is the existence of the mental world ” ( “ Science and Morals,” *Fortnightly Review*, December 1886).

This was the truth upon which Pythagoras was the first to insist. All attributes of body : unity, plurality, extension, form of any kind, roundness, squareness, or the like ; quality of every sort, sweetness, hardness, softness—all are no possession of the object ; they are pure creations of the Mind.

This is the Pythagorean investigation : “ In nature, *per se*, there is neither unity nor plurality. Nothing is one thing, and nothing is many things, because there cannot be one thing, unless by a mental synthesis of parts ; and there cannot be many things, unless each of them is one thing.”\* The Ego it is which converts the world of Not-self, or of nonsense, into the world of Self, or of sense.

There is neither roundness, nor any figure possible, to the external object. Figure means boundary. Boundary, however, necessarily resolves itself into line. But there is no line in nature ; for line is length without breadth—a creation of the Mind. Extension is simply resistance, or form of vibration, or manifestation of force akin to other vibrations. Resistance excites nerve action ; nerve action is followed by molecular change in brain ; and, lo ! the Mind creates *extension*.

Smoothness, hardness, sweetness, all the various tastes, are but pure creations of the Mind—creations preceded by nerve excitations and molecular changes ; but these vibrations and molecular changes never pass over into Mind ; their equation is satisfied within the sphere of Body.† There is nothing in them *per se*, any more than in the fancied object capable of entering into or becoming Mind. All the various objects, then, of which we are cognisant are our ideas—creations of the Mind,

\* “ Institute of Metaphysics,” Ferrier, page 92.

† See G. J. Romanes in *Nineteenth Century*, December, 1882.

which do not partake in any degree of any characteristic inherent in what we can most conveniently describe as the immediate noumenon of things. All so-called realities, therefore, are but ideas; and neither are they, in truth, realities, being but figments of the Mind. Consequently, the only final reality is the Mind, the Ego. Even the vibrations and molecular changes, as we have already pointed out, are themselves but mental creations, conceptions of the Ego. Analyse as you will, the conceptions of Matter and Body, in all their protean forms, it will be found that even the concepts themselves are but a synthesis of qualities, and that each quality is but a concept.\*

The chain of reasoning so far seems irresistible. I, the Ego, is the only One—aye, and also the only Ego, or the Absolute; for the grounds for the belief of the existence of other minds is not one whit more cogent than for the existence of other bodies. This is the logical and inevitable conclusion from the premises, viewed and treated from the subjective side alone, and it is, of all results whatever, the most complete *reductio ad absurdum*. If this is truth, then there is no error. Every thought or *think*, or act, or word, is the sole irresponsible manifestation of the only Absolute one, or God, than whom there is none other, and that Absolute is “I.” What follows, then, from this? Surely chaos is here. There can be no responsibility, with no one to be responsible to, nor thing to be responsible for. There is neither possibility nor impossibility, nor right nor wrong, nor right nor left; no rule for life and conduct, no standard of morals and

\* Fichte, in his “Grundlage der Wissenschaftslehre,” writes: “Why not rest contented with the fact that something is, instead of pre-supposing that it must have become through some foreign source? You have been wont to *think a ground* [a cause] for everything, but forget the ground itself is your thinking.” (See also G. H. Lewes.)

ethics. For all these things imply a Not-ourselves ; but I, even I, am the sole potentiality, actuality, and realisation of existence.

This conclusion it is which has precluded pure Idealism from becoming, as a philosophy, a power in the world. The only pure Idealists, of necessity, contemplated their visions in the woods and caves and places of the strictest seclusion ; there they dreamed their dreams and possessed the earth and sky, and all that therein is, being a law unto themselves, but, necessarily, unto none others. All those, however, who have endeavoured to formulate a practical Idealism—and it is with those we have to deal—have made every endeavour to avoid or evade such conclusion. Fichte, who of all *philosophers*, using the word to connote practice in contradistinction to dreamers pure and simple, was, perhaps, except Hegel, the most Idealistic of them all, demanded an escape from this dilemma, on the ground that the very existence of so impassable a conclusion was a completed demonstration in itself that there was a right alternative. This alternative, however, required postulation, being as undemonstrable, but as necessary, and in all respects similar, to the original postulation of the Ego ; and on these grounds he demanded the acknowledgment—nay, more, the accepted demonstration—of the existence of an Absolute and all-embracing Ego, wherein the multiplicity of Egos might severally inhere ; and the intellectual necessity of such an all-unifier was to him a sufficient proof of such existence. His own expression was the “*Reine Form der Ichheit welche noch nicht Individuum ist,*” which we may render as the Absolute Ego, or the pure essence of Reason.

Berkeley opened the door for a similar exit, and on similar grounds postulated simply God, which was to him, a Bishop of the Church of England, the equivalent of the Absolute. The point, however, where Berkeley,



Fichte, and Schelling were obliged to depart from the strictness of the purely Idealistic train of reasoning, in order to arrive at some thinkable conclusion, was, in spite of all their protestations, at the idea of cause. Grant that sound, colour, and the like are the productions of the Mind, nevertheless they are not *uncalled-for* productions. There are vibrations of air, or excitations of nerve or brain structure, apparently necessary preliminaries to such creations. Nay, more ; go further back : grant, if you please, that vibrations, nerve tissue, molecular structure, are likewise ideas and creations of the Ego, there is still some external cause, some irritation, at least, from the Not-ourselves without which the Ego is infertile. Whence or what this motive power ? To this Berkeley, positing God, replied : True, everything is Mind ; but our sensations, the material, as it were, from which the Mind constructs its universe, are produced in us by the power of God ; “but our ideas are participations in His intelligence ; and thus the knowledge of the world of matter is *a vision of the world in God*.”\*

Fichte, less explicit, less anthropomorphic, owing to his unecclesiastical habit of thought, postulated vaguely an appulse, a stimulus ; in other words, a cause, acting on the Ego, rendering ideas a possibility ; but whence or what this appulse (anstoss) he leaves undiscussed.

Schelling, more boldly it must be owned than either Berkeley or Fichte, maintained that the Non-ego and the Ego were equally real, but that both were the outcome of, or were identified in, the Absolute.† This last evasion, however, at all events, in so blunt a form, is but an assertion covering hasty analysis. Berkeley and Fichte grasped the fact that the great step preliminary to all

\* See Professor Fraser in *North British Review*, No. lxviii., pp. 457-9.

† “System des Transcendentalen Idealismus,” Schelling.

others was the solution of the first great question that arises after the postulation of the Ego : Is there also a Non-ego, and, if so, how are we to ascertain or divide the Non-ego from the Ego ?\*

We have also grasped this essential, and, step by step, we have proceeded with our analysis, and the result unquestionably is the fading away or blotting out of all otherness. In last resort we find the Ego all-in-all, except that we, too, must postulate some stimulus, some ferment, some ultimate irritation, otherwise the Ego, single and alone, at rest remains, unmoved and unmovable. This point we must presently consider to the full ; but, meanwhile, it is sufficient to point out that, while Berkeley posited God, and Fichte an unknowable appulse, as the only potency or actuality of the Not-self, Schelling jumped the whole of the difficulty by accepting, without due analysis, all objects and subjects as existing actualities, and called them all manifestations of the Absolute. Not but that his generalisation may possibly be accepted after proper inspection. Doubtless both the stimulus and the response to stimulus must be so brought together ; but his fault lay in making too great a concession to so-called common sense. It was this endeavour to explain to, or conciliate, common sense that led him to postulate objects as being manifestations of the Absolute, exactly as we know them in ideas, when it can be so conclusively proven that, whatever their under-layer, they are not, and cannot be, identified with the objects (ideas) known to us. Hegel, however, the great master-mind in the direction of Idealism—in fact, it may be almost said, the only absolute Idealist of philosophic history—faced all these difficulties in his “Absolute Idealism,” and his explanation was that the things we

\* See Prologomena.

know, whether Object or Subject, are neither of them existences ; for their mutual reality depends upon their mutual relation. The things we know, both the Self and the Not-self, are not only appearances to us, but are in themselves mere appearances, having their ground, not in themselves, but in the Absolute.\*

The point, however, of cause or stimulus or irritation to the Absolute whereby these appearances were enabled to arise—the great point of difficulty which caused all other men to diverge from reasoning into assertion or postulation—was not overlooked. It was, however, treated by him *sui generis*, and it will be more convenient for us to follow him thither when we endeavour, as we shortly propose to do, to discuss and demonstrate the fallacies underlying Idealism, which fallacies have been the true cause of the unacceptable conclusions. Before, however, passing to this portion of our task, it may be well to give a final summing up or statement of the general formulæ of Idealism ; and this we cannot express more precisely than in the thesis of Berkeley's doctrine so adequately crystallised by G. H. Lewes in his "History of Philosophy." He writes : "Berkeley urged the undeniable truth that, when we do our utmost to conceive the existence of other bodies, we are all the while contemplating our own ideas"—in other words, formulating the now universally-admitted postulate that we (or our minds) can be cognisant of ideas only. To resume : "Now, for an idea to exist without a mind capable of forming an idea is an impossibility ; and, as all things external to us only exist as ideas for us, therefore, if all minds capable of forming ideas were annihilated, all ideas would cease to exist, and consequently all Matter (and, *à fortiori*, all Body also), for Matter only exists as represented in our ideas."

\* "Encyclopædia."

Such is the train of reasoning, and, although it lands us, as we see, in absurdities of thought, it is one exceedingly difficult to find a flaw in or evade. The rejectors of this theory have, almost universally, fallen back, not on examination and reason, but have simply urged : In its last result, confronted with common sense, it is absurd. We must admit that other things or minds at least exist ; consequently, the logic of Idealism is demonstrated a fallacy, which requires no further investigation, and we will have none of it. Let those who say that precipices are mental go and walk over them, while we stay and look on.

This is, doubtless, a grand *ad captandum* argument, appealing with much force and directness to the multitude. Nay, more, it is an argument which it is even difficult for the philosophic students of Idealism to meet. Berkeley's reply was clear enough as far as he was concerned. His reply to such scoffing was briefly this : "I am at one with you and with the ideas of so-called common sense." He repudiated the "baseless hypothesis of a world existing unknown and unperceived ; he resolutely maintained that what are called the sensible shows of things are in very truth the things themselves."\* "I do not argue," said he, "against the existence of any one thing that we can apprehend either by sensation or reflection. *That the things I see with my eyes and touch with my hands do exist, really exist, I make not the least question. The only thing whose existence I deny is that which philosophers call Matter, or corporeal substance.*"† This was his answer to Dr. Johnson's pretended refutation of Idealism by kicking away a stone with his foot ;

\* *Blackwood's Magazine*, June, 1842, "Berkeley and Idealism," by Professor Ferrier ; since reprinted in his *Lectures on Greek Philosophy and other Philosophical Remains*. Edited by Grant and Lushington ; 1866 ; vol. ii., p. 291.

† "Principles of Human Knowledge," Berkeley, secs. 35-37, 40.

and, as far as Berkeley is concerned, doubtless it is a refutation of all such common-sense objections; for Berkeley always adhered to belief in the evidences of the senses. As G. H. Lewes writes, "He held fast to the facts of consciousness; he placed himself resolutely in the centre of the instinctive belief of mankind: there he took his stand, leaving to philosophers the region of supposition, inference, and of occult substances."<sup>\*</sup>

Nevertheless, he did deny the substrative or philosopher's Matter, and it is one of those riddles of the human reason that he did not see, he did not perceive, that the arguments whereby he demolished the substratum are equally valid against the reality of what we call objects; for the objects *per se* are just as unknowable as the substratum which was supposed to underlie them. Ideas, according to Berkeley, are all that we can know; and, as we have already quoted, he maintained that, if all minds ceased to exist, necessarily must all Matter or objects also.<sup>†</sup>

This being so, there is a very palpable gap in his chain of reasoning, and, as a consequence, Berkeley has had but few followers. Fichte, Schelling, and other Idealists have felt compelled to continue the logical train of reasoning, and it is admitted that the conclusions apply with equal force to objects as they do to substratum. Their reply to the arguments and appeals to common sense—of precipices and poisons, or the like, is not so simple. The appeal is direct:—If all things are but mental, internal to the Ego, then drink this poison, and so create it as to be harmless to the Ego. As you maintain there is neither precipice nor body save in imagination or in mind, come, then, walk over this mental precipice with this mental body, for no harm can come

<sup>\*</sup> "History of Philosophy."

<sup>†</sup> *Vide Supra.*



by simply a mental process. The appeal, the challenge, is direct, and must prevail to the minds of the multitude, because the answer is indirect—is, as yet, unproven, perhaps unproveable. The reply, however, runs as follows:—Your challenge is through objects, through physics, through the things which you certainly cannot prove, in the first place, to exist. Nevertheless, we will not shirk the issue, but will meet you on your own ground. As regards the effects of food, of drugs, of poisons, of disease—this observation, this experiment, on which you rely is tending more and more each year to establish the power of the will, the mind, over body. Mind-effort will undoubtedly enable the body to do with far less food than science declares is sufficient to supply its needs. The power of the will certainly can overcome pain, disease, and even death itself; and this not merely in cases of hysteria, where the administration of bread-pills and coloured water, if believed to be most powerful medicines, will produce effects as powerful, and even more effectual, than the drugs themselves. The powers of the disciplined will, it is true, are as yet only foreshadowed; but so many cases of indisputable verification have arisen that it is nearly demonstrated that the will, under certain circumstances, not yet understood, can not only affect the wills and minds of others, but, leaving its earthly tenement, Time and Space may be annihilated, and appearance or even action at a distance is declared possible.

The human race is yet in its infancy—perhaps not 150,000 years old.\* Give it 1,000,000 years of

\* Professor Clifford, in the course of his lectures on “The Philosophy of the Pure Sciences,” delivered at the Royal Institution, March, 1873, in this connection states: “Now, there can, I think, be no doubt that the experience of a hundred or a hundred and fifty million years has so modified our nervous systems,” etc. The progress, however, of scientific thought has, since then, been in the direction of very great curtailment of the number of years available for the evolution of terrestrial beings, and, in

development, though even this is comparatively but a moment in the march of æons, and at a steady rate of progress much may be achieved in time. Nay, more : knowledge increases knowledge in ever-augmenting ratio ; and he is a bold man and a rash one who will even now venture to set limits to our possible progress in this direction. So far, so good, as far as food and poisons are concerned ; but what of precipices, it may still be asked ? The molecular variations of the intestines are in direct communication with the nervous system and mental processes ; but what of the laws of gravitation, which vary not and are not in touch with your mentation ? There is a general answer even to this and all other objections of a similar character. It is this : All forms of Extension, of which a precipice is one, and all forms of Force, of which gravitation is one, exist for us only as ideas ; they are creations of the Mind. But we may maintain that these creations of the Mind are necessarily subject to the laws of Mind in precisely the same way as you maintain they are subject to the laws of Body. Now, the violations of the laws of Body may cause the destruction of the Body ; so, also, in a similar manner, the violation of the laws of Mind may cause the destruction of the Mind. You regard Force and Matter as externals, and a certain definite combination or direction of these results in the destruction of the Body, and, consequently, in the destruction of the Mind also, which, according to you, is but a creature of the Body. We have shown that Force and Matter are internals, and that a certain definite combination or direction of these results

his recent contribution to our store of scientific knowledge, Sir William Thomson has gently but firmly disposed of all such extravagant demands by demonstrating that the whole period of the evolution of the solar system itself, from the primæval mist, must be contained within some such limit as is here devoted by Professor Clifford to the production of that insolent creature of a day—*Homo ridiculus*.

in the destruction of Mind, and, consequently, of Body also, which, according to us, is the creature of the Mind. Whence now your jest, O mocker? Are we not at one with the teachings of your boasted common sense? On your side you declare that precipice or cannon will destroy Body, and consequently Mind. We, by accurate analysis, discover that you have put the cart before the horse, and we maintain that precipice and cannon will destroy the Mind, and, consequently, Body also. The “mental” laws of extension and Force, in certain combinations—let us say as precipice and gravitation, or as lead and powder—are synchronous with destruction. *Pari passu*, then, the situation is balanced even from your common-sense, or common non-sense, point of view; but, if we take a step in advance, we find that, in the presence of bodily precipices and bodily laws, Body is helpless, inane—a creature but of fate and circumstance. Not so the Mind. The idiosyncratic, creative power of the Ego has partly over-ruled even this destiny of destruction. Has not the Mind created steps, ladders, winding-machinery, lifts, balloons, whereby heights may be ascended and descended? Has not the Mind constructed armour plates, through which the shot and powder fail to hurt the Mind? Go to! the laugh is now with us, and must so remain, until you can bring forth in evidence a single portion of extension or force as unassociated with any Mind. So the objector is silenced; but, though silenced, he is left unsatisfied. He cannot, will not, become a convert to what his inner consciousness, *his* Mind, revolts from as fallacious. What the fallacy may be is now our duty to discover.

The completed logical reasoning of Idealism is, it is true, very nearly unassailable; but when a departure is made, from dread of the logical consequences, and concessions are given, or overtures take place towards

common sense or experiment or prejudice, then the resultant thesis becomes a very quicksand. The fallacies appertaining to the latter kind are so numerous and easily discoverable that they will not require much of our attention here; but the fallacies of Idealism itself will require our strictest investigation.

As a fact, as Idealism is a parallelism of Materialism, so it will be found are its fallacies also. As in the case of Materialism, the fallacies are two-fold, and at the same position—namely, in beginnings and endings.

Materialism has its underlying fallacy at its touching point with ontology. Here, also, is the underlying fallacy of Idealism.

Materialism has its second fallacy at the ending or completion of the chain, when it endeavours to pass from Body to Mind. Idealism has its second fallacy at the ending or completion of the chain, when it endeavours to pass from Mind to Body.

What is the underlying equation which we have ascertained is the basis of all philosophy?  $I=I$ , an equivalence of statement.

What is this  $I$ ? How do we become conscious of it? Careful introspection will reveal that the recognition of the Ego is only possible through the fact of its being an equation; for what is an equation but that which has two sides to it? And the  $I=I$  is found to include within the Ego the Not- $I$  also. This recognition of the Not- $I$  is the only means whereby the Ego can recognise itself. I am, because I am differentiated from the Not- $I$ ; “Cogito”—I can think as the particular, the real, the individual, because I am different from thought, the general or the abstract.

This compulsory recognition of the Not-ourselves, it will be seen, is the keynote of the fallacies underlying both beginning and ending. Idealism, having begun

with Mind, finds nothing but Mind, and eventually is logically driven to postulate only one Mind—itself—as the Absolute.

Let us first consider this in relation to its touch with ontology. Given Mind as the One potency, how could thought arise for us? Only, it is evident, through or by some stimulus or irritation. Professor Clifford, however, in his criticism of “The Unseen Universe,”\* says: “Our authors.....must both have had enough to do with examinations to be aware that ‘it is evident’ means ‘I do not know how to prove.’” This being so, it behoves us very carefully to investigate this point, so that, although, perhaps, we may also not be able to prove, still that we may indicate, the logical necessities of this *impasse*. We must admit that the Mind has a function, which is thought, and that its manifestation consists in the exercise of this function. Now, it must be borne in mind that, in describing the exercise of this function, the term Motion is inadmissible, because Motion means the progress in Space and Time of that which is itself extended. Now, stimulus and irritation are almost wholly used as generical terms for physical contraction and expansion—that is, of Motion; consequently, it may be urged that no stimulus or irritation can be applied to the Mind; and no doubt this would be a legitimate objection if the words “stimulus” and “irritation” be rigidly confined to their primitive meaning. Nevertheless, the operation of the Mind is a process which, although primarily exclusive of spatial relations, is concerned with and manifests itself through Time; and “stimulus” and “irritation,” as no new words have been forthcoming, have acquired an exten-

\* “The Unseen Universe; or, Physical Speculations on a Future State,” *Fortnightly Review*, June, 1875.



sion of meaning, and in this wider sense can rightly and adequately be applied to these mental operations, provided always that this psychical meaning be thoroughly understood when used in mental context, the physical or spatial relations being tacitly suppressed. Mentation, or the Mind in activity, then, is a process, though not an uncaused or uncalled-for process; but, if this process is set up by stimulus or irritation, something added or applied, *then* is the Mind not *the only* potency—there *is* an Otherness, or Not-ourselves, against which we may strike fire.

Once more, we may ask—May not this stimulus or irritation be internal, a feature or potentiality of the Mind? May not, in other words, the Mind be its own stimulus and response to stimulus? An adequate consideration will show us that it may not. Given the Mind in unity, as alone the generator of all things, then it must forever remain blank and dark—silent, unfertile. Why? Because, if we consider what we mean by production in its simplest form, it is equivalent to change. But what is change? It is something that was not there before; some force, some movement has arisen, which makes the Ego different to what it was before. But how or whence this force? Is it urged, it is contained potentially in the Ego, and that the change is the result of the potentiality becoming activity? This brings us no nearer the solution. The force may be postulated as being in the Ego since the beginning; but what started it out of potentiality into activity? What set the ferment going? Clearly something not there before; but, if the Ego was all-in-all, the Absolute, then there was and is nothing else to set this ferment in motion. No appulse, no impulse, can arise; for there is nothing, no when, no where, to so arise to disturb the balance or alter the eternal equation. This, it will be seen, is a parallel situation to that which,

we have pointed out, arises when the vague generalities of Materialism are reduced within the canons of logic, and carried to the point of touch, with the all-controlling requirements of the Underlier, or "Pure Being." It will be remembered that, the totality of Matter and Force being postulated, it was found that the sum of atoms and their forces balance, and eternal equilibrium is discovered as the only possible fundamental underlying the atomic theory. The whole of Matter and the whole of Force being already postulated, no appulse, no impulse, can arise to disturb the balance or alter the everlasting equation. To this *impasse* comes also the Idealist at the same crucial point of the investigation. *If* Matter—that is, ultimate homogeneous atoms, each endowed with necessarily equivalent force—is all-in-all, then can there be nothing to set the ferment going. If the Ego, the I, is the all-in-all, than which there is no otherness, from whence can come the power disturbing, re-arranging, the eternal unity and equivalence?

In order to crystallise our ideas, let us take as a simile one of the lowest forms of life on earth—the amoebæ. Let us suppose, for the sake of argument, that there is one of these a complete *homogeneous* piece of protoplasm. In time it grows and multiplies by fission. Simply contractions on opposite sides of its circumference appear; and, by-and-bye, the contractions, extending through the centre, meet, and two amoebæ now are there. But it is clear that some acquired, added impulse started that contraction going. It could not be inherent in the protoplasm for all time, because, if so, it would have acted at the beginning; and, if it was potentially there, what and whence was the change of circumstances which led to the development of the potentiality? Clearly it must be external—something, the Not-itself, to the force or action of which it responded. Now, looking upon the

Mind as the Absolute, the Unextended, it will be seen, in similar manner, that there is, and must be, even in the beginning, a dual principle—a Self and Not-self. Mass and Motion, Passivity and Activity, Action and Re-action—this is the great underlying verity. This it is which Hegel has grasped in all its depth and height and fulness. This it is which he unfolded in his celebrated aphorism, “Being and Non-being are the same.” He saw that Being, “pure Being,” is, in last analysis, incapable of motion, fertilisation, development. The one, the all, the sole, the only existence is—practical nothingness. It is parallel to its opposite, Non-being, or theoretical nothingness. Hence he was not far from the mark in propounding that remarkable generalisation, “Being and Non-being are the same.”\*

The fertilisation of Being, according to Hegel, arose by the passing over, as it were, of Being into its antithesis, otherness, or complement—that is, into Non-being. But this antithesis, otherness, complement, was in a real sense Being itself, for Being and Non-being, being equally nothingness, are in the same category. Herein, however, were motion, interaction, stimulus, and response to stimulus rendered, not only a possibility, but a reality; and Pure Being, thus enriched or fertilised by the double interaction, became manifested as existence—that is, *conditioned* Being. Pure Being, the Unconditioned, the Absolute of *Potentiality*, rolled round into pure Non-being, the Unconditioned; the Absolute of *Impotentiality* emerged, energised, and conditioned, and became the Limited, the Relative. This is the groundwork of the Hegelian philosophy; but the difficulty of expressing it in intelligible language is such that an additional explanation thereof, as given by “Ueberweg,” may not be

\* “Phänomenologie des Geistes,” Hegel.

out of place. He writes: "The point of departure for the dialectical development in the logic (and hence in the whole philosophical system) of Hegel is pure Being, as the conception which is most abstract, absolutely devoid of content, and therefore identical with Nothing. To Nothing, Being stands in the double relation of identity and difference, although the difference cannot be expressed or specified. The identity (in the midst of diversity) of Being and Nothing gives rise to a new and higher conception, which is the higher unity of both—viz., the conception of Becoming. The species of Becoming are origination and decay; its result is determinate being (*Dasein*), being which is identical with negation, or being with a determination which is immediate or which *is*, or, in still other words, being with a quality. Determinate being, as in this its determination reflected into itself, is a something Determinate, or simply Something. The basis of all determination is negation (and Hegel cites with approval Spinoza's principle, *Omnis negatio est determinatio*). Quality, in its character as *being* determination—determination which *is*, in distinction from the negation contained in, but distinguished from it—is Reality; but the negation is no longer the abstract nothing, but alterity, the being other. The being of quality, as such, in opposition to its relation to some Other, is its being *per se* (*Ansichsein*). Something becomes Other-thing, because otherness is a *moment* in Something, and this other which it becomes, as a new something, becomes in turn still other; but this progress *in infinitum* is arrested by the contradiction that the finite is at once something and the *other* corresponding to this something; and the contradiction is removed by the consideration that the something, in passing over into its other, only comes together with itself, or becomes the other of that other; this relation of something to itself,

in passing over into its other and in its other, is the true infinitude, the restoration of being as negation of negation, or being for self (independent being). With being for self the qualification of ideality is introduced. The truth of the finite is its ideality. This ideality of the finite is the fundamental principle of philosophy, and every philosophy is therefore Idealism.”\*

These considerations of Hegel, which, expressed in such clear language, will now, we trust, be thoroughly understood, are, almost, the only real and bold attempt that has yet been made to grapple with the fundamental difficulty—that is, the description or indication of the manner of the generation of the impulse or anstoss whereby and wherefrom fertilisation of pure Being arose—in fact, of the process whereby pure Being passed through potentiality to Becoming, and thence into actuality. Nor can we say that the attempt at description of this process is altogether inadequate. As a symbolisation of the actual it may be near enough; as accurate and as fertile of suggestion, perhaps, as any thesis which may be formulated by the human mind. But there remains of necessity the one uncertain link which must ever render the chain of reason, binding pure Being to phenomena, unsound. The tender place is the postulation of the identity and difference of Being, or Nothing, with Non-being, or Nothing.

Identity is an absolute phrase. Identity is identity, or the postulate of an absolute *ens*. There is no such thing as relative identity; therefore, identity with a difference is a misapplication of terms. And, understanding as we do the value of an equation, we can brush aside all mystification, and once more realise the vital and essential truth that  $I=I$ , and, for that all-sufficient reason, “I” cannot simultaneously equal the Not-I, nor

\* “History of Philosophy,” Ueberweg, vol. ii., pp. 238, 239.



Being equalise with Non-being. Hegel, as we have seen, states that "the difference cannot be expressed or specified;" but even this is but an admission that they are two, not one—two similarities, not one identity or *ens*; an extremely important distinction, into which we shall, presently, further inquire. "Ueberweg," in like manner, annotates this statement: "But, in reality, this difference can be specified as follows:—The conception of Being is obtained by abstracting all difference in the objects of true conceptions, and retaining only what is identical in them; while, in forming the conception of nothing, the former process is carried one step farther, and abstraction is also made of the identical itself."\* Therefore, we think it must be admitted that, even as an explanation or symbolisation, the Hegelian thesis falls to the ground, and Idealism remains in like quandary with Materialism whenever self-existent and undivided Being on the one hand, or self-existent and endlessly-divided Being on the other, is postulated as taking upon itself form and fashion, quality or quantity, or attribute of any kind, without the stress of Otherness or Not-self being laid upon it.

The deduction, then, of the Idealist, that all is Ego, that there is no Not-self, and that all is the creation or devolution of the Ego, is found in last analysis to be unsound. It is untrue in the domain of phenomena; it is false in the domain of noumena; it is unthinkable even in the domain of the Absolute, unless expressly provided for by suggestions or conditions, which amount to dualism. How much is Self, the Ego, is still an open question. Much—nay, most—may be the Ego; but that there is an actuality, a something, outside and beyond the Non-ego, is a demonstrated certainty. Nay, more; passing now to the other end of the chain from ontology

\* Ibid, note to p. 238.

to phenomenology, even here, also, it will be found that this otherness must be accepted.

For the moment, let us assume, with the Idealist, that all is the Ego, and that the Ego creates its own world alone and unaided; what then? Its creations, its offspring, are clearly not itself; they become a Not-self. The ideas of the Mind are not the Mind; they are something apart therefrom. Tree is an idea; but it is not my mind. Man and vibrations, sound and colour, are not my mind; they are and must be the Not-self before I, the Ego, can contemplate them. There must be Not-self objects for my contemplation before the contemplation of the Ego itself can arise. These very objects are realities, because they also have qualities inherent in themselves. These very ideas, which the Idealist thinks are figments, creations of the Mind, possess themselves a Force or Power by which they can and do act upon, stimulate or irritate, the Ego, *causing* other combinations to arise. In the beginning the Mind, having received stimulus from some Not-self, becoming fertilised may thus bring forth its creatures; but these creations themselves, after production, become real indeed, and exert stimuli, each after their own kind.

This point is of such importance, and is so seldom brought into philosophic consideration, that we must tarry for a moment while it receives an ampler elucidation.

Let us, for the time being, assume the thesis to be correct which it is one of the objects of this work to demonstrate—namely, that stimulus *plus* response to stimulus is the fundamental of all determined existence, or finite Being. This stimulus, then, with the response thereto, is the underlying process of the Mind, and consequently the source of all our knowledge. These, then, are the two factors without whose dual presence knowledge, for us, is an impossibility.

Let us, in the light of this assumption, examine the idea "tree." Firstly, there is an otherness, something apart from us, which stimulates our subjectivity. Secondly, our egoity responds to the stimulus, and the result is a perception, an object, admirably called by Dr. Lewins\* a "*think*," a sense-object, which we call a tree. This combination is a true object for us. I say combination advisedly, for it is not the source of stimulation alone, *per se*, as it exists; it is also our conception of it. Our conception, however, is modifiable by the nature of the stimulus; consequently, the object, "the think," is the result of two factors, and *not* of one alone—stimulus *plus* response to stimulus. The compound, however, the result, the tree, has become a veritable object, and it cannot be gainsaid that this compound, this tree, has now qualities, activities, apart from us, which it could not and did not possess when it, or its underlier, was a *per se*, a thing apart from our egoity. It has now new potentialities of stimulus to which, as otherness, the Mind may again respond.

Let us continue the consideration. It has been found that there are a varied class of stimuli to which we can respond, all of which give rise to the idea of trees, various trees; and these all become, in like manner, real objects for us, and, as such, as we have pointed out, acquire fresh potentialities of stimulation to which the Ego may respond. One fresh stimulus may be found in the likeness, and yet variation (or unlikeness), in these objects, and the response to this new stimulation results in the generic idea "tree." So, also, with regard to the ideas of hardness or sweetness, or quality of any kind whatever. Various stimuli, to which the Mind has

\* "Life and Mind," by Dr. Lewins; also "What is Religion?" by C. N. (London: W. Stewart & Co.)

responded, and which have, therefore, resulted in true objects, are the cause of further stimuli; and, from the consideration of their relations, the Mind, in response, abstracts one quality which is common to them all in its conception of them, such as hardness or sweetness; and thus the abstractions are arrived at over which the Nominalists and Realists of mediæval days fought so many a stubborn fight, and which battle, *pace* Professor Huxley,\* is by no means yet concluded. Whether, as the Realists held, these generic ideas—such as man, tree, hardness, or sweetness—exist apart as things *per se*, or whether, as the Nominalists taught, they are merely the abstractions of the Mind made from the consideration of concrete things, will now, it is seen, turn, as on a pivot, briefly upon this:—Are the various generic ideas a real otherness to the Mind, causing stimulation thereto in like manner as the underlier of trees and iron and sugar exist admittedly apart, acting upon the Ego, and giving rise to further considerations? A real line of distinction has by no means yet been drawn, and, although we may not here enter upon this great controversy, we may briefly point out that the solution of the question may readily be made to hinge upon the crucial point, Is the *thing* in dispute capable of giving rise to any further stimulation of the Mind or not? If so, then it exists as a thing or *ens* apart; if not, then it is but a moment in a process with which the Mind is continually engaged.

Judged by this criterion, tree, although a compound creation, born of stimulus and response to stimulus, is, and has become, a real existence as apart both from the original underlier or stimulus, and apart from the Ego or response to that stimulus, because, as an independent

\* "Scientific and Pseudo-Scientific Realism," by Professor Huxley, *Nineteenth Century*, February, 1887.

entity, it has the power of again stimulating the Mind, so that fresh ideas are evolved.

The generic ideas, tree, man, hardness, sweetness, etc., have been evolved by the stimulation of the new-born entia—sundry trees and men and stones and fruits, to which the mind has responded ; but ultimate abstractions and non-entia these generic ideas are and must forever remain, because never do they acquire the power of further stimulating the Mind ; therefore, they are not otherness, but are of the Mind alone ; and this is but a confirmation of the thesis which we have dwelt upon—namely, that Mind or Matter, turned in upon itself, remains unfertilised, unfertilisable.

From this digression let us return ; but we trust that it has now been made plain how that, equally, at the end of the train, at the passage of Mind into Body, as at the beginning, where pure Being was called upon to pass into Mind—both at beginning and ending—otherness is there.

The mistake of the Idealists is this. They have imagined that, because they can find nothing but Mind in the universe, therefore the Mind must stimulate itself and be the be-all and end-all of creation. The fact is that, although Force and Matter may indeed be but creations of the Mind, stimulus there is, and stimulus there must be, enabling all things to arise by response thereto.

To resume, however, our considerations. It has, we trust, been made clear that Hegel's proposition, "Being and Non-being are the same," cannot be considered valid, except in the particular—that is, in this particular place and manner. Pure Being, we have seen, is unrealisable, infertile, a blank void of potentiality. But Non-being is a blank void of impotentiality, a similar unrealisable condition ; consequently, in this sense—that is, that they both



are blank voids of unrealisability—Being and Non-being are the same ; but it must not be supposed that they are identical, or absolutely similar, because they would then be one, not two ; for absolute similarity is identity. So, likewise, to propound the doctrine that there is no difference between the Ego and Non-ego is, as we have seen, a postulation which, by making the Ego and Non-ego actually one, destroys all possibilities or potentialities of them both.

There has been and is so much confusion over the terms “identity” and “absolute similarity” that a few moments must here be given to their consideration. Mr. Joseph Taylor, in his recent essays in the *Secular Review*, has laid stress upon the fact that “absolute similarity” and “identity” are, in reality, interchangeable terms ; and although, as we shall see, this is indisputably true, the accuracy of this suggestion has been much questioned, and the force of it greatly misunderstood. The confusion of the questioners arises, as usual, from a loose method of applying terms—that is, by giving them a double meaning. In this case it arises from the careless use of the word “Absolute,” which is, by them, made interchangeable with “very great,” or “in the highest degree.”

Now, what does “absolutely similar” really mean ? Let us, for the moment, consider it as referring to two objects having extension—let us say two peas, or two shot. It is quite a common error of expression to speak of these and such like as absolutely similar ; but we shall find that such a term is entirely misapplied. In order that two shot may be absolutely alike, they must, first of all, be of the same weight, same shape, same colour, and, so far, all is plain sailing ; for, although two actual shot never are precisely alike in these particulars, nevertheless there is nothing in the idea of shot to prevent

their being so. But we must go further : not only must they be of the same weight and colour, but they must be composed of the *same particles*. Why so? it may be asked. Why not of similar particles? For this reason, to be absolutely similar each particle must be in its exact juxtaposition and relation to each other particle, and to all other particles of the universe; but no particle can be in more places than one, and it is now manifest that difference of position is difference of similarity. Consequently, the particles of No. 1 are all to each other in a series, A, B, C, D, etc.; but the particles of No. 2 are in another series, X, Y, Z, etc. Shot No. 1 is not absolutely similar to shot No. 2, because its definite particles are A, B, C, etc.; while No. 2 is composed of X, Y, Z, etc. Nay, more; as two complete wholes they cannot be absolutely similar, because they come under and are modified by variations in their relations to other bodies. Shot No. 1 is the first to receive impulses, electric, magnetic, and others coming, let us say, from the west; consequently shot No. 2 receives these in a manner modified by the interception of No. 1. Similarly, No 2 receives first all impulses coming from the east, and so on indefinitely; consequently, it will now be clear that absolute similarity is meaningless or impossible, unless it is the postulate of identity; or, in other words, that a thing is what it is— $I=I$ . Absolute similarity is clearly reducible to this; for, if  $I=I$ , it is impossible that I can simultaneously equal the Not-I. So far, therefore, it is seen that absolute similarity, taken strictly, is merely another mode of expressing the equation,  $I=I$ ; but, from this, other minds have run away with the idea that, therefore, relative or very similarity is an impossibility. The series, A, B, C, and X, Y, Z, may be more or less similar, and upon this similarity the relative similarity of the totals, 1 and 2, must hinge. But this second

mistake is also caused by the fundamental double use of the word "Absolute." Both sides use the word "Absolute" in the dual sense (Absolute and Relative). "Absolutely similar," cries one, meaning very or relatively similar. Relative or very similarity is demonstrable; therefore they take it as a matter of course that absolute similarity is merely the intensification of the relative or the very—a sort of superlative very. On the other hand, absolute similarity having been demonstrated to be identity, the other side fall into the confusion that very or relative similarity must also mean identity, because they also labour under the same confused notion that "absolute" and "very" are really convertible terms, differentiating only in degree; when, on the contrary, the real fact is, that, while absolute similarity is the postulate of identity, relative similarity is the postulate of difference.  $I=I$ ; but truly, also,  $I$  cannot, and does not, equalise with the Non- $I$ .

Having cleared up this too frequent confusion of thought, we can now proceed with our analysis in answer to the query, What is the nature of the Ego? What is the nature of the Non-ego? And we believe that an answer may be returned satisfactory to the necessities of both Materialism and Idealism.

The solution is open, in the first place, because the demonstration of the necessity of the existence of a Non-ego has been completed. Berkeley, recognising it, postulated God. Fichte claimed an appulse proceeding from the Unknown. Schelling held that both positive and negative action, activity and resistance, were from and in the Absolute; and Hegel found the re-action and interaction of pure Being, with its opposite or Non-being, to be the ground in the Absolute for all relation or Not-self. So far, then, we have proceeded that, in addition to our postulate of the Ego or Self, we are now enabled

to add, with additional certainty, the postulate of the Non-ego, or Not-self. Where, then, is this point of differentiation? What is the nature of the Ego? What is the nature of the Non-ego? The answer of the Materialist is: "The Non-ego is Matter. The Ego is Matter also. Both are manifestations or functions or potentialities of Matter." The answer of the Idealist is: "Ego is Mind. The Non-ego is Mind also." It will be found that these two answers are, in last analysis, only a distinction without a difference. The contradiction is one of terms only. The Idealists urge, with a force which cannot be denied: "We have ascertained that all these qualities of what you term Matter—such as figure, quality, quantity, relation, modality—are, one and all, terms, properties of Mind only. In this Matter that has been postulated one distinguishing feature after another is found not to inhere in it, but always in the Mind; consequently, at last, all content being taken out of the postulate Matter, Mind only remains behind. But, as we are also bound to recognise that some stimulus or otherness is necessary to the Mind before it can cognise even itself, this stimulus can be some form of Mind only. Consequently, Mind is the only real existence." This proposition, even, from the point of view of the Materialist, is absolutely unassailable in its premises. The only vulnerable point is in the conclusions. Well, go and walk over your mental precipice, and you will perhaps then ascertain that Matter, or Body, exists. The real gist of the whole difficulty lies, as before, in the dual and ambiguous use of the term "Matter."

Confining the use of this word to Philosopher's Matter, Noumenal Matter, that unknown or unknowable substratum, it will be seen that a proposition can be formulated that will meet with entire acceptance and approbation from Materialist and Idealist alike, and, at

the same time, be wholly free from their fallacies of both premise or conclusion. Matter, we have learnt, is now accepted by all the schools of thought as unknowable *per se*; nay, more, that Body also must be brought under the heading of the Unknown; and we are, in fact, driven to the admission that neither this Matter nor this Body can be known out of mentation. A green leaf, for example, does not exist in the universe apart from the power of Mind. We have also learnt that all the schools equally admit the philosophical necessity of postulating some stimulus—a stimulus and response to stimulus arising prior to effects; some “Otherness,” in fact, wherefrom the Mind may distinguish itself; some power or impulse to which the Mind may respond.

Now, Materialists assert: “This stimulus is only Matter.” Idealists assert: “This stimulus is only Mind.” If we carefully regard these propositions, we shall find that they resolve themselves into identity, if only the terms are rigidly defined.

Let us ask, with the Materialist, “What is Matter?” The reply is inevitable: “It is certainly not Body, for we have been compelled to admit that Body is supported by, or even created by, mentation. Nay, more; we have been compelled to recognise that even Matter is unknowable, except in terms of Mind. We have, however, also ascertained that some externality, some stimulus, some otherness, as well as the responsive factor, is a necessity to the actualising of the Ego.” These twain factors, then, are “Matter,” which is the unknown  $x$ , or dual self and otherness, rendering mentation a possibility.

Let us ask, with the Idealist, “What is Mind?” “Admittedly it is the organiser, or creator, of Body; but it must also be admitted that it creates by means of excitation, by means of this unknown stimulus, which must first arise.” What is this stimulus? What is it



that responds to stimulus? "It is not Matter," cries the Idealist (confusing Matter with Body). It is only unknowable  $x$ ; but unknowable  $x$ , or the mutual underlier, is *Philosopher's Matter*; it is identical with, *it is the last postulate* to which the Materialist has been driven; and here, at last, in unknowable  $x$ , or the potentialities of infinite activity manifested as stimulus and response to stimulus, are both Materialism and Idealism at one.

What of this power? Ask not! The poet sings:—

" Let the oak increase  
His corrugated strength on strength, the palm  
Lift joint by joint her fan-fruit bale and balm,—  
Let the coiled serpent bask in bloated peace—  
The eagle, like some skyey derelict,  
Drift in the blue, suspended, glorying—  
The lion lord it by the desert spring,—  
What know or care they of the power which pricked  
Nothingness to perfection?"\*

And we—we recognise the power, but know, no more of it than they.

We now can formulate with decision the propositions:—

Firstly. That *Matter*, or the unknown basis and stimulus, exists, as otherness, apart from the individual mind, and thus there is an actual reality, or Not-ourselves, demonstrably existing; and, therefore, no longer does the logic of necessity compel us to recognise but one sole Ego—ourselves—as the Absolute. Otherness exists. Therefore, surely, other minds and other existences also—modified, idealised, created, in a sense, by ourselves and for ourselves, but existing outside and beyond our mentation, each after their own fashion, notwithstanding.

\* "Parleyings with Certain People of Importance in Their Day," by Robert Browning. (London: Smith, Elder, & Co.; 1887.)

Secondly. As a corollary thereto—

Without stimulus, no Mind.

Without response to stimulus, no Body.

Herein lies the unification of the opposing trains of thought.

Mind, the Materialist has hitherto contended, is the outcome of Matter. Matter, the Idealist has maintained, is the outcome of Mind. And lo ! there is no more contradiction ; no longer is there mutual destruction, but these two are one.

Without stimulus, contained within the unknown  $x$ ,  
no Mind.

Without response to stimulus, contained within the  
unknown  $x$ , no Body.

Stimulus, or the underlying principle of Otherness, is of the unknown substratum, or Philosopher's Matter.

Response to stimulus, or the underlying principle of Self or Identity, is of the unknown substratum, or Philosopher's Matter.

Thus stimulus and response to stimulus, Self and Not-self, (vulgar) Matter and Mind, all are unifiable in and reducible to the equivalences or causes lying hid within the bounds of Philosopher's Matter, the unknown  $x$ .

There is, however, a fallacious corollary from this principle, which the Materialist does not fail to draw ; and, before any real reconciliation can be made, its falsity must be demonstrated.

Without Matter, no Mind, is followed up by, Without Brain, no Mind ; and, although it is unmistakably true "that without Mind, no Body," still, it is always urged that organisation is necessary, and is concomitant with thought, and that Brain is the particular organ of the

Mind.\* Now, quite independently of the exhaustive analysis that we have, in various parts of this work, already given to this statement, it may here be very briefly pointed out that the real danger of this fallacy consists in its dangerous approximation to the truth. A half truth is often more false than all the falsehoods. The parallelism, the concomitancy, between organisation and thought is patent to us all ; but we have now arrived at the explanation of its origin and purpose. Without Matter, or unknown  $x$ , no Mind. We have accepted stimulus and response to stimulus ; but what then ? Stimulus *plus* response to stimulus is *organisation* ; consequently, without the accompanying organisation, no Mind ; but the error lies in demanding that all possible forms of mentation are the accompaniment *only* of brain or fleshly organisation.

Stimulus and response to stimulus are the factors of Mind ; but never may we define or limit the potentialities of this organisation, of this stimulus and response thereto, as being possible only as the product of an anatomical brain or body. Let us examine and elucidate this further. Turning to our table (see "Materialism," page 48), it will appear that "*Prima Materies*," or Philosopher's Matter, that Matter which we have been so careful to distinguish, is composed of incoherent potentialities ; these result in substance ; and substance, in its turn, develops into the realisation of the concomitants, Body and Mind. Now, it must never be forgotten that this symbolisation, even if it be a fairly accurate one, is but the discovery of one actual line of development, or of one power or potentiality of that *Prima Materies*, or

\* Brain, in this connection, must be held to include the spinal cord, nerve centres, and any or all physical processes or formations which from time to time may be included by physiologists and psychologists in the mechanism of thought.

Philosopher's Matter, whose virtues and powers, for all that appears to the contrary, may be represented by *n*; and it will now be seen to what summits of audacity have those attained who have or would maintain that all forms or kinships to, or potentialities of, Mind are necessarily and forever linked indissolubly to what we know as Body, or even to what we know as extension. Granted that, in last analysis, Mind itself is the result of organisation of some quality or description, the suggestion lying open to acceptance is, certainly, *not* that this organisation must be associated with flesh and blood and nerve tissue alone, *but* that out of the countless potentialities of organisation of the incoherent potentialities this is but one particular mode—the one to which we may have discovered that we are here and now associated. The true inference is plain. Ten thousand times ten thousand may be the potentialities or actualities of the becoming of Mind, few or even none other of which need necessarily be associated with what we term (vulgar) Body.

Organisation of "*Prima Materies*" is necessary to Mind. Yes, accept that as the general truth we may; but by no means may the particular statement be derived therefrom, that the only organisation having potentialities of Mind is brain. In like manner, Idealism has deduced a corollary equally false and equally to be avoided. "*No Mind, no Body*," has been proved as the truth; but "*No Mind, no Matter*," can by no means be allowed to pass. Matter, the unknown *x*, in the phase or actuality of stimulus, must, as we have seen, be admitted as a thing apart, for Mind alone, unfertilised, unenergised, remains forever unconscious of itself, a potentiality, but nothing more.

We can now, following a similarity of plan with that adopted in our consideration of Materialism, sum up the

Idealistic formulæ ; follow thereafter with an amended scheme ; and then tabulate the portions common to each, as achieved results quarried out of our bed-rock postulate, "I am that I am."

Idealism has laid it down :—

#### PROPOSITIONS OF IDEALISM.

Firstly. Body is the result of mentation—is, in fact, but a product of the Mind. *Consequently, by a similar train of reasoning, Matter, the unknown x, is also discovered, in last analysis, to be but the product of the Mind.*

Secondly. Mind, the unextended, therefore, turned in upon excited mind, although creating this Body, can know mental manifestations, ideas, only. *Consequently, the products of the Ego can be in no sense physical, and there is no extended reality existing.*

Thirdly. Mind is unity or identity, and, turned in then upon the absolutely similar or identical, it would remain one and unexcited from all other source. *It, therefore, energises itself. Consequently, in last analysis, the individual Ego, the "I," is the whole and sole potentiality or actuality of existence. The Ego, the "I," is the Universal and Absolute.*

Let us also formulate our propositions in accordance with the evidence brought before our questioning :—

#### THE PROPOSITIONS OF CORRECTED IDEALISM.

Firstly. Body is the result of mentation, or is but a product of the Mind. *But Mind itself is a compound unity ; it is stimulus plus response to stimulus. Consequently, the stimulus, as a phase of the unknown x, or Matter, the basis of Mind, is demonstrated to be something other or apart from Mind.*



Secondly. Mind, the unextended, therefore, turned in upon excited Mind, although creating this Body, can know mental manifestations, ideas, only. *In these ideas, however, or objects, owing to the excitation or stimulus given to the Mind, there is discoverable an actuality of otherness, which gives rise to what we term the physical and extended.*

Thirdly. Mind is unity or identity, and, turned in then upon the absolutely similar or identical, it would remain one and unexcited from all other source. *The Ego, therefore, by its very recognition of itself, demonstrates beyond all possibility of dispute the necessary existence of the Not-self, or otherness, and recognises that itself is NOT the Absolute.*

AXIOMS OF IDEALISM WHICH HAVE BEEN DEMONSTRATED,  
AND WHICH MUST, CONSEQUENTLY, BE ACCEPTED AS  
PART OF TRUTH.

#### I.

Body is the result of mentation, or is but a product of the Mind.

#### II.

Mind, the unextended, therefore, turned in upon excited Mind, although creating this body, can know mental manifestations, ideas, only.

#### III.

Mind is unity or identity, and, turned in then upon the absolutely similar or identical, it would remain one and unexcited from all other source.

So far, then, we have progressed. Having started with the postulate,  $I=I$ , in the endeavour to ascertain, by the avenues of experience and reason alone, what that Ego was or is, we have lighted upon the certain demon-

stration that it is complex instead of simple, and that the postulate, the I, includes the postulate and demonstration of the existence of the Not-I also.

This is a very great advance to have surely gained, and we have now the ground fairly cleared to enter into the synthetic portion of the work—the further questions, How much is Ego? How much is the Non-ego? and What are their respective contents? For the present, however, we must leave this subject here, and pass on to other forms of philosophy and other answers to the quest.











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